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Family Doctor

A JOURNAL OF THE NEW YORK STATE ACADEMY OF FAMILY PHYSICIANS

New York State Academy of Family Physicians

Focus:

Clinical Issues

FEATURE ARTICLES:

- Incorporating Shared Medical Visits in an Evolving Health Care System
- Myalgic Encephalomyelitis/ Chronic Fatigue Syndrome: What Every Family Physician Needs to Know
- Choosing Wisely Guidelines - Geriatrics and Aging
- Carbamazepine Toxicity Associated with a Stroke-like Presentation and Seizure

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- **Inspire families** and communities to embrace school breakfast.
- **Empower children** to take action to help increase access to breakfast in their schools.
- **Support initiatives** to move Breakfast After the Bell for better participation

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National Medical Association Region 2

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New York State Academy of Family Physicians

NYSAND New York State Academy of Nutrition and Dietetics

School Nurse

NHMA National Hispanic Medical Association (Metro Region)

New Jersey State School Nurses Association Leading, Teaching, Caring.

American Academy of Pediatrics NYS AAP

American Academy of Pediatrics New Jersey Chapter

American Academy of Pediatrics District of Columbia Chapter

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[1]U.S. Department of Agriculture Economic Research Service. Household Food Security in the United States in 2015

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From the Executive Vice President

By Vito Grasso, MPA, CAE

Clinical Issues

Remaining current in your clinical knowledge has always been a challenge for physicians. Change is a constant in all aspects of life. Changes in science and technology which ultimately impact diagnostic and treatment decisions are frequently reported in the public news media and disseminated over social media making it especially important for physicians to be continually connected to reliable sources of information about new developments in clinical practice.

The Academy has, through our educational and informational programs, tried to keep current in our own awareness of new and emerging trends in clinical practice. We rely upon our members for information and perspective on developments as they occur. Indeed, it is a major function of leadership within the Academy to contribute to this important and ongoing process.

Increasingly, clinical practice is affected by policy developments and changes in the business environment of medicine, and the Academy has become a major stakeholder in the development of public policy affecting health care and medicine at the state and national levels. We have been effective as an advocate for family medicine because of the commitment of time and attention by so many members whose expertise, energy and dedication to their patients and specialty has defined the policy aspirations of the Academy over the years.

As we look ahead and anticipate continued and dramatic change and challenges for health care and for family medicine, the Academy is uniquely endowed with an abundance of talented and committed members who recognize the need for and value of their personal participation in setting and promoting Academy priorities. Here in New York, we have been blessed with dynamic leaders who have consistently stepped forward throughout the seven decades of Academy history to help define and advance our mission. In this regard, we are proud to support the candidacy for election to the AAFP Board of Directors, of Dr. Tochi Iroku-Malize.

Dr. Iroku-Malize has an impressive resume of service and leadership with the Academy from her earliest days of membership through her residency training and into her active career. She has served on numerous NY and AAFP committees and commissions, on the NYSAFP Board of Directors, in both the NY and AAFP Congresses and as an officer and ultimately as president of the NY chapter. In each of these experiences, Dr. Iroku-Malize has distinguished herself by her dedicated, thoughtful and productive work. She has been a nationally recognized leader in medical education, has been a persistent and articulate author on numerous clinical and policy topics in a variety of medical publications, has mentored many students and residents, and has been a popular and highly regarded speaker at numerous local, state, national and international medical meetings.

The AAFP Congress of Delegates will elect three new board members at its October 8-10, 2018 session in New Orleans. Dr. Iroku-Malize has established a personal campaign page which is available at http://www.nysafp.org/Member/AAFP-Board-Candidate. I encourage you to visit this link, read about Dr. Iroku-Malize's background and experiences and comment on issues and developments which you feel should be part of the Academy's leadership selection process.

As always, we hope the content of this issue has value for you. We deeply appreciate your work on behalf of patients and the innumerable contributions which you make throughout the year in the effort to serve patients well and to enhance family medicine.

...we have been blessed with dynamic leaders who have consistently stepped forward throughout the seven decades of Academy history to help define and advance our mission.

President's Post

By Sarah Nosal, MD, FAAFP

As a little girl they would always try to tell me to look away. But I was curious and determined, and wanted to watch how you tie a tourniquet or clean the skin, how you get the needle to pierce or how you find a vein. I studied these things as I readily imagined preparing for a future as a physician. And I was fascinated with what secrets my blood or urine might reveal. What tests would they run and what might our cells tell? (In retrospect likely unnecessary tests and non-evidence based).

As we move deeper into our medical careers and clinical practice we often forget the early curiosity that brought us here. The kids who were not grossed out by frog or rabbit dissection, but thrilled to diagram the chambers of the heart or discover the lobes of the liver, and the tucked away kidneys. The human body was full of so much mystery and the world was full of so many questions waiting to be answered.

As family physicians our potential learning material remains endless. Still more mysteries of the human body to be discovered, new drugs becoming available, and new behavioral interventions which all might change and improve the lives of our patients.

Amid a tumultuous political climate it can be easy to be distracted from the wonder which brought us into medicine and provided that drive to learn. As we move into a new year, try to remember that curiosity and that wonder and bring it with you in your work as a family physician. It is our broad knowledge which makes our care and work as family physicians both so strong and so challenging.

Happy New Year!

Mark YOUR CALENDARS

S M T W T F S

UPCOMING EVENTS

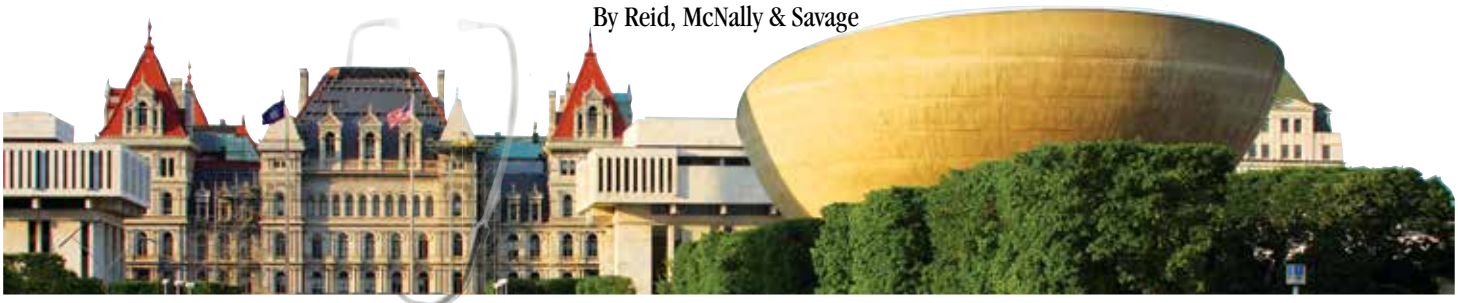
2018

March 11-12
Winter Cluster and Lobby Day
Albany, NY

June 23-24
Congress of Delegates – 70th Anniversary
Hilton Garden Inn, Troy, NY

Albany Report

By Reid, McNally & Savage



As the New York State Academy of Family Physicians prepares its winter edition of Family Doctor, we have prepared an Albany report focusing on the upcoming 2018-19 NYS budget, recent elections throughout NYS, changes to the workers' compensation program and the current status of bills of interest to the Academy.

NYS Budget Update

In November, Governor Cuomo's Division of the Budget acknowledged that a deficit for the coming fiscal year has widened from $4.1 billion to $4.4 billion while Comptroller DiNapoli's office had earlier projected an even steeper decline in state revenue based on lagging income tax collections in the first half of the year.

"We've been a little more conservative — that's usually the case coming from our shop. We'll see who's more correct as the numbers come in," DiNapoli said.

In an election year, the lack of resources is bound to make things more difficult. The Governor has spoken about uncertainty surrounding the federal government, where Congress is advancing a tax code overhaul that would eliminate the ability for New Yorkers to deduct state and local taxes from their federal income tax returns.

We will be closely monitoring budget negotiations beginning with the release of the Governor's budget in mid-January and keep the Academy apprised of any proposals that could be harmful to your patients, practices and other priority areas.

Election Update

The 2017 election year was comprised mainly of local races for mayor, county executive, town supervisor and other city and county positions across the state. We saw a number of upsets either with incumbents being ousted or through party changes, most notably with Democrats scoring major victories in the New York City suburbs. Below is a summary of the key election outcomes impacting state government where Senators and Assembly members were elected to local offices leaving their seats vacant. It will now be the responsibility of the Governor to determine whether and when to hold special elections to fill these state seats.

Senate & Assembly Vacancies:
5th Assembly District (Graf)
10th Assembly District (Lupinacci)
17th Assembly District (McKevitt)
39th Assembly District (Moya)
74th Assembly District (Kavanagh)
80th Assembly District (Gjonaj)
107th Assembly District (McLaughlin)
142th Assembly District (Kearns)
32th Senate District (Diaz)
37th Senate District (Latimer)

Workers' Compensation Update

Board Chair Proposes Revised Impairment Guidelines

Legislation enacted in the current budget directed the Workers' Compensation Board (Board) to consult with stakeholders regarding revisions to permanency impairment guidelines and to adopt revised guidelines for the evaluation of medical impairment and determination of permanency with respect to injuries which are amenable to a schedule loss of use award. The Board has released a revised rule which requires that all evaluations of permanent impairment for use in a schedule loss of use determination shall be performed in accordance with the Workers' Compensation Guidelines for Determining Impairment, First Edition, November 22, 2017, and effective January 1, 2018. These guidelines are available for review via the following link: http://www.wcb.ny.gov/content/main/hcpp/ImpairmentGuidelines/2017DRAFTImpairmentGuide.pdf

New Health Care Provider Registration

The Board has initiated a registration process to update and maintain a current list of medical providers who are authorized to treat injured workers. Authorized providers were asked to register with the Board and update their office addresses and contact information by December 29, 2017. This registration process will be an ongoing initiative every two to three years.

Creating an Account in the New York State Health Commerce System (HCS)

The Board will use the existing New York State Health Commerce System (HCS) for this registration process. For the initial registration and for future updates to your practice information, you will need to have an HCS account. If you don't already have one, you can view directions to create an account on the New York State Department of Health website. https://apps.health.ny.gov/pub/top.html

continued

Legislative Update

NYSAFP 2017 Priorities Advanced in the Senate and/or Assembly

The 2017 session was a challenging, yet successful one for NYSAFP. The Academy supported a number of bills which were passed by both houses and was able to defeat others that would have negatively impacted patients and practices. Additionally, we were able to achieve advancement of a number of priorities through movement out of key committees or full passage of legislation by at least one house of the Legislature. This helps to make preparations for these items in 2018 to advocate for passage in both houses.

Below is an update on the status of priority bills that were advanced by one house during 2017 followed by the status of bills of interest to the Academy which were passed by both the Senate and Assembly this session.

- **Single Payer: S.4840, Rivera / A.4738, Gottfried** – This legislation would establish the New York Health program. This bill has advanced through the Assembly committee process and passed in the lower house with a vote of 94 to 46, but has not moved out of the Senate Health Committee.
- **Reproductive Health Act: S.2796, Krueger / A.1748, Glick** – Enacts the Reproductive Health Act. This legislation advanced quickly through the Assembly early in the year and passed with a vote of 97 to 49, but has not moved out of the Senate Health Committee.
- **Comprehensive Contraception Coverage Act (CCCA): S.3668, Bonacic / A.1378, Cahill** – Enacts the "comprehensive contraception coverage act" to provide insurance coverage for FDA-approved contraceptive drugs, devices and products. This legislation was introduced at the request of the Attorney General and has advanced quickly through the Assembly early in the year and passed with a vote of 103 to 43. This legislation has not moved out of the Senate Insurance Committee.
- **Expedited Partner Therapy: S.2545, Hannon / A.313 Bichotte** – Authorizes expedited partner therapy for certain sexually transmitted infections. This legislation advanced through the Assembly committee process and passed in the lower house with a vote of 134 to 12. This legislation has not moved out of the Senate Health Committee.
- **GENDA: S.502, Squadron / A.3358, Gottfried** – Prohibits discrimination based on gender identity or expression. This legislation passed the Assembly with a vote of 92 to 48 but was defeated in the Senate Investigations Committee with a vote of 6 to 2.
- **Tobacco 21: S.3978, Savino / A.273, Rosenthal** – Increases the age to purchase tobacco products from 18 years old to 21 years old. This legislation was reported out of both the Senate and Assembly Health Committees and has yet to advance from the Assembly Codes Committee or the Senate Finance Committee.
- **Safe Injection Program: A.8534, Rosenthal** – Legislation was introduced in the Assembly in the final days of the 2017 session to establish a program to provide for safe injection sites for drug use. While the bill was not advanced prior to the session's end, we understand the Governor's office and his agency staff are considering it. The Academy will work to advance this initiative in 2018.

A number of other priorities are on the horizon that we hope to successfully advance in the 2018 session including legislation to make it a felony to assault a physician – adding physicians to the already protected groups of police officers, firefighters, emergency responders and nurses regardless of practice setting. The Academy will also push for the inclusion of a tax credit to health care professionals who precept students in the 2018-19 State Budget.

Several thousand bills were introduced during the 2017 session and just over 600 were passed by both houses of the Legislature. Provided below is a status of key bills passed by the Senate and Assembly. To view the text or sponsor's memo for any of the following legislation, you can use the following link: http://assembly.state.ny.us/leg/

Status of Key Bills Passed by Both Houses in 2017

Prohibits Possession of E-cigarettes on School Grounds S750, Ritchie / A611, Rosenthal – This legislation prohibits the use of an electronic cigarette on school grounds and was signed into law.

E-Cigarette Restrictions in Workplaces S2543-A, Hannon/ A516-A, Rosenthal – This legislation includes electronic cigarettes (vaping) in the state's Clean Indoor Air Act to prohibit their use in all workplaces and public places and certain outdoor areas and was signed into law.

Authorizes the Delivery of Telehealth Services at any Elementary or Secondary School S3293, Hannon / A4703, Jenne – This legislation expands the meaning of originating site to include public, private and charter elementary and secondary schools, school age child care programs, and child day care centers within the state of New York. This will allow PCPs to use telehealth to connect with and provide care to young children while they are at school or a child care center. This amendment supports existing models of telemedicine, which connects the patient to his/her primary care medical home or provider. This bill was signed into law

Health Care Services for County Jail Inmates S5409-A, Gallivan / A7985-A, Blake – This legislation would allow the county board of supervisors to procure the services of a professional partnership, a professional service corporation, a professional service limited liability company or a registered limited liability company for the purpose of providing health services to county jail inmates. Such entity shall be designated by the board to act as the chief medical officer of the jail. This bill was signed into law.

Certificates of Public Advantage S5342, Hannon/ A7748, Gottfried (DOH Departmental Bill #25) – This legislation extends the authority of the Commissioner of DOH to issue certificates of public advantage (COPAs) to health care providers to engage in arrangements such as mergers and clinical integration agreements to promote improvements in access and quality of care, by four years to December 31, 2020. This bill was signed into law.

Provider/Consumer Health Care Protections S6454, Hannon / A8061, Gottfried – This legislation extends for two years provisions to ensure that if a contract between a health plan and a hospital is not renewed or is terminated by either party, the parties shall continue to abide by the terms of the contract, including reimbursement terms, for a period of 2 months from the termination or end of the contract period.

Notice must be provided to enrollees within 15 days of the commencement of the two-month period. The requirements do not apply where both parties agree to the termination or non-renewal and the health plan provides notice to the insured at least 30 days in advance of the date of the contract termination. This bill was signed into law.

continued

Briana's Law S3165-B, Hamilton / A2115-B, Ortiz – This legislation would require officers of the New York State Police and the New York City Police Department to complete training in cardiopulmonary resuscitation during the police academy and every two years thereafter. This bill was signed into law.

Allows Individuals/Entities to Purchase and Operate External Defibrillators S5718, Hannon / A7532, Gottfried – This legislation would clarify that any health care practitioner who has the necessary experience, prescribing authority, and scope of practice, may enter into a collaborative agreement with a person or entity seeking to possess and/or operate an automated external defibrillator. This bill expands the ability to enter such an agreement to include physician assistants and nurse practitioners with the goal of increasing access to defibrillators while maintaing safety standards. This bill was signed into law.

Authorizes Schools to Screen for Childhood Obesity S2724-B, Klein / A5151-B, Crespo – This legislation would integrate information relating to health conditions caused by obesity into school curriculum with the goal of reducing childhood obesity. Through the formation of school district advisory committees, schools will have guidance on nutritional policies which will promote healthier lifestyles and weight management in students. This bill was signed into law.

Medical Marijuana Use S5629, Savino / A7006, Gottfried – This legislation would make "post-traumatic stress disorder" an eligible condition under the state medical marijuana law to ensure that those suffering from such condition are able to use medical marijuana for treatment. This bill was signed into law.

Authorizes Use of Epinephrine Auto-Injectors S6005-A, Murphy / A7635-A, Buchwald – This legislation would expand the definition of a person or entity eligible to administer epinephrine auto-injectors to include contracted staff (such as school bus drivers). This will ensure that any employee who might encounter a child experiencing a dangerous reaction can provide this essential service. This bill was signed into law.

Prohibits Prior Authorization for Neonatal Intensive Care Services S6053, Hannon / A8051, Gottfried – This legislation clarifies that no health plan shall require a prior authorization determination for services provided in a neonatal intensive care unit of a hospital. However, the plan does have authority to deny the claim if it is determined that such service was not medically necessary. This bill was signed into law.

Department of Health Actions: Designated Lead Poisoning Areas S1200-A, Alcantara / A1809-A, Dinowitz – This legislation requires the Commissioner of Health to give written notice for the discontinuance of a paint condition conducive to lead poisoning in any dwelling designated by the Commissioner as high risk. In the event of failure to comply with such notice, the Commissioner is required to conduct a hearing. Under current law, the Commissioner is permitted but not required to take these actions. The bill also provides that abatement shall not be ordered by the Commissioner if the respondent proves by a preponderance of the evidence at a hearing that a paint condition conducive to lead poisoning in the designated dwelling does not exist. This bill was signed into law.

Expands Coverage of Tomosynthesis by Certain Health Insurers S4150, Griffo / A5677, Seawright – This legislation would amend the insurance law to include that every policy providing coverage for hospital, surgical or medical care may include coverage for breast tomosynthesis in all cases that a policy would normally be required to cover traditional mammography screening of breast cancer. This bill was signed into law.

Establishes the Rural Health Council in Statute S4741, Hannon / A7203, Jones – The purpose of this bill is to amend the public health law to create a statutory Rural Health Council within the Department of Health to advise the Commissioner on all aspects of rural health care. This bill was signed into law.

Medical Malpractice S6800, DeFrancisco / A8516 Weinstein – This legislation would change the statute of limitations for medical, dental, and podiatric malpractice from two and half years to the later of either: 1) two and a half years from the date an injured patient discovers or should have discovered the negligent failure to diagnose cancer or a malignant tumor; or 2) the date of the last treatment where there is continuous treatment for the same illness, injury or condition which gave rise to the accrual of an action. Where an action is based upon the discovery of a foreign object in the body, the action may be commenced within one year of the date of discovery or of the date of discovery of facts which would reasonably lead to such discovery. The bill prohibits a malpractice action from being filed more than seven years after the date of the alleged malpractice. This bill passed both houses, despite the strong opposition by physicians, hospitals, liability carriers and others. This bill has not yet been transmitted to the Governor.

Medicaid Carve-Out of School-Based Health Centers S6012, Seward / A7866, Gottfried – This legislation would permit a School-Based Health Center (SBHC) to opt out of the Medicaid Managed Care Carve-In. Under the current law, all SBHCs would be required to become part of the Medicaid Managed Care program on July 1, 2018. The bill would require that DOH develop a standard memorandum of understanding with sponsoring organizations of SBHCs to provide for the delivery of coordinated health care and participation in quality improvement programs. This bill passed both houses. It has been transmitted to the Governor for consideration and action should be taken on the week of December 18th.

Leave for Cancer Screening S5925, Hannon/ A2830-B, Dinowitz – This legislation expands excused leave for public officers and public employees for any type of cancer screenings. Existing law provides for such leave for breast cancer only. This bill passed both houses. It has been transmitted to the Governor for consideration and action should be taken on the week of December 18th.

Study of High Incidence of Asthma in Manhattan S5559, Alcantara / A7214, Seawright – This legislation authorizes the Commissioner of DOH to prepare a study of the high incidence of asthma in the borough of Manhattan in New York City which will analyze disparities in asthma rates among different demographic groups. The goal of this study will be to provide a remedial plan. This bill passed both houses. It has been transmitted to the Governor for consideration and action should be taken on the week of December 18th.

Study of High Incidence of Asthma in the Bronx S3103, Serrano / A703, Sepulveda – This legislation authorizes the Commissioner of DOH to prepare a study of the high incidence of asthma in the borough of the Bronx in New York City which will analyze disparities in asthma rates among different demographic groups. The goal of this study will be to provide a remedial plan. This bill passed both houses. It has been transmitted to the Governor for consideration and action should be taken on the week of December 18th.

NYSAFP is very pleased to share with our readers the winning entries from our third annual writing contest, "Family Doctors Telling our Stories". Our first place winner was "Magic" by Dr. Lorne Campbell. Runners up were Lois Van Tol, MD; Natalie Hinchcliffe, DO; and Quynh Chu, MD. Entries will be featured in future issues of Family Doctor.

Magic

I include birthing as part of my practice. My daughter was seven and the magic and the belief of Santa was starting to be questionable.

We decided to take her to see the Santa at the mall. While standing in line about third from Santa Claus, he called out to me, "Dr. Campbell, do remember me?"

I said, "of course, you are Santa."

His answer back was, "no, that's not it." He got up from his throne, approached my daughter and me and he started removing his beard.

I said, "I remember you Santa," more forcefully.

He realized what he was doing, laughed and said, "You birthed my baby girl three months ago, thank you Dr. Campbell"

My daughter turned to me and said, "You birthed Santa Clause's baby!" in awe.

This turned out to be the key to her renewed belief and another year of Christmas magic.

Lorne Campbell, Sr., MD is a board certified family physician in Johnson City, New York.

Highlight on VACCINATIONS 4 TEENS

Features a robust Resource Library of materials for family physician offices, including:

- **Back-of-office materials**
  - Q&A to address questions from teen patients and parents/guardians
  - Three educational videos from Dr. Margot Savoy, MD, MPH, FAAFP and AAFP liaison to ACIP, on:
    - The value of the immunization platforms and making the most out of the 11-12 and 16-year-old visits
    - Tips for using the schedule
    - Standing orders and activating staff as champions
  - Links to other educational videos on meningococcal and HPV vaccination
  - A fact sheet on the importance of addressing under-vaccination

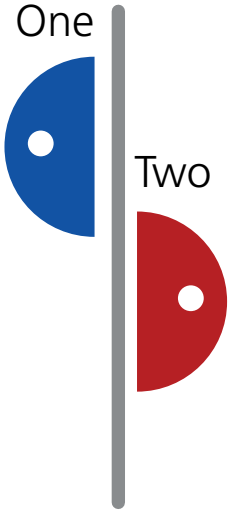
- **Front-of-office materials**
  - Reminder communications for parents/guardians
    - Letters/emails
    - Postcards
    - Text messages
  - Teen vaccination overview poster/handout
  - Template digital and social media content directed to teens and parents/guardians
  - Personal testimonials

Visit www.aafpfoundation.org/vaccinations4teens to download these resources.

HPV vaccine has great potential for benefit, but the public has not accepted this vaccine with enthusiasm equal to that accorded other childhood vaccines, resulting in disappointing vaccination rates. ***Should the NYSAFP advocate for a school mandate for HPV vaccine?*** *Our Congress of Delegates debated this proposal in 2008 and a tie vote followed. A COD debate in 2017 resulted in this proposal being referred to the Board of Directors for further study. Please consider the arguments that follow, develop an opinion, and respond to an electronic survey that will follow to assess members' opinions. This survey will inform the Board's action on this proposal.*

VIEW ONE
THE CASE FOR A SCHOOL-BASED MANDATE FOR HPV VACCINATION

By Martha Simmons, MD



Human papillomavirus (HPV) is the most common sexually transmitted infection in the United States with an estimated 14 million new infections every year.[1] The public health burden of these infections is dramatic with 30,700 cancers diagnosed each year that can be attributed to HPV.[2] These cancers include anogenital cancers in both men and women as well as head and neck cancers.[3] Prior to vaccine availability, nearly half of American women in their early twenties, and forty percent of sexually active adolescents ages 14-19, were infected with HPV.[4] Within 6 years after the vaccine introduction, vaccine type HPV prevalence fell 64% in this population.[5] This decrease in HPV prevalence translates, as expected, to a decrease in HPV-associated cervical cancers. The nine valent HPV vaccine protects against approximately 81% of cervical cancers.[6] Additionally, all commercially available vaccines are very safe with large post-licensure clinical trials showing no serious adverse events ascribable to the HPV vaccine.[7]

In light of the strong evidence of efficacy and safety, the Advisory Committee on Immunization Practices[8] and the American Academy of Pediatricians[9] recommend routine vaccination for HPV. However, vaccine uptake in the United States has been low. As of 2016, nationally only 43.4% of teens had completed the recommended series.[10] In New York State, only 55.7% of teens completed the HPV series.[11] Vaccination rates among teenagers are especially relevant, because the vaccine is most immunogenic when given prior to age 14, is ineffective against already present HPV types[12] and is most effective when given before sexual debut.[13]

Over the past 3 years, an average of 47.4% of teens in NYS have received 2 doses of the HPV vaccine.[10] We know some herd immunity exists at low rates, however, analysis of multiple modeling studies confirms that far more effective rates of herd immunity occur at vaccination rates of boys and girls at 40% and higher.[14] Girls enjoy a lifelong relative reduction of HPV prevalence of 71% at the 40% rate and 100% at an 80% rate.[15] For boys the corresponding numbers are

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VIEW TWO
IN OPPOSITION TO HPV VACCINE MANDATE

By Philip Kaplan, MD

There is clear evidence that state laws requiring vaccines for school attendance succeed in raising immunization rates for other diseases. Imposing such a mandate for an illness not transmitted in the classroom however, raises both ethical and strategic concerns.

Ethics: The argument for such a mandate is rooted in the observation that the diseases prevented have frequent and severe consequences, and the minors whose parents decline immunization are exposing their children to great harm. Substituting state judgment for that of the parent has thus far been justified only when the non-immunized child presents a hazard to other children whose parents want their child protected. Such children may be in the minority of patients who do not develop immunity in response to a vaccine, or who have a medical contraindication for the vaccine. Protecting a child from the judgment of their own parent has been considered a legitimate state interest only in very narrow circumstances defined in statutes involving abuse and neglect. There is a robust literature on the ethics of compulsory vaccination, but no firm guidance.

Strategy: Mandates for HPV vaccine have been introduced in several states. In 2007 the Texas governor issued an executive order that was immediately repealed by the legislature. Virginia and the District of Columbia each have a surviving requirement, but with an opt out process at the parent's sole discretion.[1] Rhode Island imposed such regulation two years ago and immediately stopped enforcement due to public backlash. Admittedly, the rates of HPV vaccination did rise in Rhode Island following the publicity of this regulatory attempt. A bill (S489) has been introduced in Rhode Island to reverse this mandate. The chair of the NYS Assembly Health Committee has supported religious exemptions for school vaccines and has introduced legislation for more broad opt out provisions. His electoral base will likely be energized by an attempt to impose an HPV mandate.

continued on page 16

reductions of 71% and 99%.[16] Significantly, the prediction is that we can eliminate vaccine type HPV strains at rates of 80% in males and females.[17] These studies also indicate that HPV types are eliminated at different rates of vaccination. Notably, HPV types 16 & 18 are not eliminated until vaccination rates reach 80%.[18] This is salient because HPV types 16 & 18 are responsible for approximately 70% of all cervical cancers.[19]

While vaccine rates are overall increasing and the gap between vaccination of male and female adolescents is narrowing, the curve appears to be flattening with smaller increases in recent years than in previous years.[20] Systemic reviews of both national and international interventions to increase HPV vaccine uptake suggest that a concerted effort is required to optimize HPV uptake among adolescents.[21] Environmental interventions such as those in Australia that combine parent/patient and provider education with a school based vaccine program have been shown to be most effective.[22]

An HPV mandate for school entry is one possible environmental intervention. Although, HPV is not transmitted in school in the traditional sense, it is incredibly infectious, and the public health benefit of eliminating oncogenic HPV especially 16/18 would be immense. Concerns about individuals with philosophical and religious objections to the vaccine, can be addressed with a mechanism for opting out of the requirement. Originating in the 1800s with smallpox, vaccination requirements for school entry have been the most effective tool ever devised to protect children and their families from the effects of vaccine-preventable disease.[23] New York State would not be alone in implementing this policy. Rhode Island, which has the highest level of HPV vaccination in the country[23], implemented a large public health initiative in 2015 which included funding for vaccines, patient and provider education, reminder calls for vaccinations, and a school mandate requiring HPV vaccination for entry into the 7th grade.[24] As family physicians and members of the NYSAFP who are committed to public health, we should support a similar initiative in New York State requiring HPV vaccination for school entry.

Endnotes

1 Satterwhite, Catherine Lindsey, et al. "Sexually transmitted infections among US women and men: prevalence and incidence estimates, 2008." Sexually transmitted diseases 40.3 (2013): 187-193.
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view two, continued

The US Supreme Court has twice considered mandatory vaccination. In 1905, 'Jacobson v Massachusetts' the Court upheld the imposition of a fine for not accepting a smallpox vaccination.[2] The state was justified in restricting individual liberty under the pressure of danger to the safety of the general public. But the Court was not unanimous in 1905, suggesting the precedent may be vulnerable to reversal. In 1922 the Court again upheld an ordinance that prohibited anyone from attending school without a certificate of smallpox immunization. A school mandate for HPV vaccine will likely generate public resistance which could result in an eventual appeal to the US Supreme Court. We have heard much speculation that the conservative nature of our national politics could generate reconsideration of Roe v Wade. This same conservatism could generate reconsideration of school vaccine mandates.

A school mandate for HPV vaccine could cause a reversal of the gains we have made in supporting school mandates for other vaccines in both NYS and the nation. A school mandate to protect a child from the judgment of her parent raises serious ethical concern.

Your academy is meanwhile pursuing other means to improve HPV vaccination rates. We have joined a consortium led by the NYS American Cancer Society to strategize improving rates of HPV vaccination. A grant from the AAFP Foundation was used to produce educational sessions at the Regional Family Medicine Conference in 2017 and Winter Weekend in 2018. The AAFP Foundation has distributed a tool kit for inducing parental acceptance of this vaccine, including very effective YouTube videos, links to which appear in this issue.

Endnotes

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Philip Kaplan, MD, FAAFP is past president of NSYAFP (2012-13), chair of the NYSAFP ad hoc committee on vaccine policy (which is NOT unanimous on this issue), Clinical Professor at SUNY Upstate, and practices in Manlius, NY. For vaccine questions or to offer opinions on vaccine policy, contact us at vaccine@nysafp.org.

Understanding and Assessing Trauma in Hispanic Women within a Primary Care Setting: Optimizing Care and Management

By Abner Fernandez, MD; Cynthia Lamour, DO; Robert Cavera, Psy.D and Joyce Robert, MD

Introduction

Family physicians and related services providers (e.g. psychologists, social workers) may be in a position within a community as the first and/or only providers many individuals will come in contact with. This patient population includes, most notably, immigrants and refugees who are seeking a new life in the United States. These individuals are often hesitant to access healthcare. Often overlooked, patients who have immigrated to the United States may have suffered traumatic experiences that are not necessarily visible upon initial examination. Physicians are aware of routine screening and vaccinations for immigrant and refugee populations but may be unaware of the psycho-social issues that are prevalent. Refugees have higher rates of mood disorders, anxiety, and post- traumatic stress (PTS) compared to the general population and may present with complaints of somatic symptoms, sleep disorders, fatigue, paranoia, or suicidal thoughts.[1] A portion of refugees that resettle are 10 times more likely, as compared to the general population, to experience PTS and depression and may experience loneliness, isolation and culture shock as an initial reaction to their new environment.[1] They may have fears of deportation if they share their traumas. Additionally, depressive and stress reactions may be masked with somatic symptoms, such as headaches and gastrointestinal distress. New immigration laws and protocols may further contribute to their anxiety and stress.[2]

As primary health care providers, it is imperative to be cognizant of these underlying factors and be well-informed regarding evidence-based treatments for these patients. In our family medicine clinic, which is located on the South Shore of Long Island, approximately 70% of our patient population is female and of Hispanic heritage. With the ever increasing Hispanic population throughout the United States, there is a marked need for understanding how to address the myriad needs that these patients may present with. The need will only increase, as recent census data indicates that, by 2050, the Latino population will increase to 30% in the United States.[2]

The purpose of this article is to examine the need for early identification as well as timely, full-person treatment for individuals from the Hispanic community who were victims of traumatic experiences. Identification, assessment and treatment will be addressed through two case studies.

CASE 1

Z.H. is a 55 year-old Hispanic female with a past medical history of cerebrovascular accident, systolic heart failure, stress induced cardiomyopathy, hypertension, and depression. During a routine visit monitoring her chronic conditions, she became tearful when discussing her home life. Z.H. provided multiple examples of how her children did not respect her despite her dedication to financially supporting their family following a move from Argentina to the United States. She described her children as constantly insulting her based on her appearance, opinions, and medical conditions; often calling her worthless and "a waste." She stated that this had been modeled by the father of the children, who presently resides in their home country. Per her report, he would return from work and frequently physically abuse her, often dragging her naked through the house and the driveway. Whenever she would attempt to discipline her children or enforce chores or school work, her husband would tell the children to ignore her because she was "stupid and useless." Z.H. eventually found the courage to leave the situation and find work in America, in an attempt to escape the traumas of her past.

The patient further reported that she had not disclosed her past traumas before her evaluation with her family physician. She explained that, while she was living and working in the United States, one of her

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employers invited her to a family picnic. During this picnic, she was asked to join her employer and his family at the dinner table. She experienced intense anxiety, eventually excusing herself and leaving the picnic. She believed that she was not worthy of sitting with people at a dinner table, based on her self-view resulting from her past traumas.

Z.H. was counseled utilizing behavioral and cognitive techniques regarding self-esteem, and after several visits reported feeling more relaxed and emotionally validated. During her most recent visit, she reported that she had increased her socialization by joining a group of Argentinians in her community and participating in weekly social events. She noted that her children continue to engage in emotionally abusive behavior, but she is more accepting of herself, and has an increased sense of self-worth.

Background

Post-traumatic Stress (PTS) is a disorder that can develop following a traumatic experience during which an individual experiences an extreme threat to their well-being. The individual often suffers prolonged emotional, cognitive, and behavioral dysfunction due to having experienced an extreme stressor or stressors. Hallmark features of the disorder include hyperarousal, hypervigilance, avoidance of the traumatic (or related) stimuli, flashbacks (including nightmares), and significant symptom-related distress or functional impairment (e.g., social, occupational).[3]

Traumatic stressors can include (but are not limited to): combat situations, natural disasters, life threatening diagnoses, and physical or sexual abuse. Women of Hispanic heritage with a history of sexual abuse have higher rates of PTS, as well as anxiety and depression.[4] In one study of Latina women between ages 18–34 years old, participants endorsed a significant relationship between their own history of sexual abuse and resulting symptoms of PTS, anxiety and depression.[4] Of particular note from that study: with victims whose traumatic experience included sexual assault, perpetrators were almost always someone known to the victims and included family members or intimate partners.[4]

Screening and Identification

It is of vital importance that clinicians screen for PTS during the initial visit for patients of Hispanic heritage who have recently immigrated to the United States. For initial evaluation, the United States Preventative Services Task Force (USPSTF) recommends that clinicians screen women of childbearing age for intimate partner violence (IPV) and provide treatment for those who screen positive. Several screening instruments can be used to screen women for IPV. One commonly utilized screening and identification tool with high levels of sensitivity and specificity for identifying IPV is the Hurt, Insult, Threaten, and Scream (HITS)[5] screening instrument:

Screening Tool for Intimate Partner Violence (HITS)[6]

How often does your partner Hurt you physically?
How often does your partner Insult or talk down to you?
How often does your partner Threaten you with physical harm?
How often does your partner Scream at you?
Scoring: never = 1 point, rarely = 2 points, sometimes = 3 points, fairly often = 4 points, frequently = 5 points. A score of greater than 10 points is a positive screen.

The American Academy of Family Physicians, American College of Obstetrics and Gynecology and the American Medical Association also support screening women for IPV.[6] Family physicians can also assess the presence of trauma in immigrant populations by utilizing questions recommended by the CDC, such as: "Were you ever a victim of violence in your former country?" and if yes, "Would you like to describe what happened to you?" This line of questioning may lead to an open conversation and the first step to helping the patient cope with their past experiences.[1] Also of note, though designed to screen for depression, the Patient Health Questionaire-9 (PHQ-9) can also be used as a primary screening tool for PTS, due to the comorbid nature of trauma and depression.[7]

CASE 2

M.L. is a 38 year-old female of Hispanic heritage who was initially seen in our Family Medicine Center (FMC) for an emergency department discharge follow up. She went to the emergency department after experiencing intense abdominal pain and vaginal discharge for over 3 months. During her initial visit to the FMC, she was provided with the PHQ-9 as part of the standard screening procedure for new patients. Following completion of the measure, her responses indicated the likely presence of moderate depression.

Following a detailed interview, the patient indicated that the symptoms she experienced caused her significant distress on a daily basis. As an initial treatment, M.L. was prescribed an SSRI (sertraline) and scheduled to meet with the health psychologist within the practice. During her follow up visit, which also included a well woman examination, the patient revealed a past history of sexual abuse which began when she was 10 years old, and continued for several years. She became tearful and described how she was repeatedly sexually abused by her uncle, with whose child she became pregnant when she was a teenager. Following delivery of that child, she was forced by her mother and family to leave her home, and was eventually able to enter the United States illegally with the help of relatives and friends. As she described her trauma, she noted that she had not shared her experience with any males, including her husband, due to her feelings of fear and shame. The patient's symptoms were consistent with a diagnosis of Post-Traumatic Stress Disorder.

Following several additional visits with her PCP, health psychologist, and social worker, M.L. was able to work through and process the emotions related to her traumatic experience. She reported an increase in sleep quality, feelings of self-worth, and a decrease in anxiety and depression. She was also able to speak openly with her husband about her past history of abuse, which allowed her to foster a closer relationship with her husband. She was referred for weekly outpatient psychotherapy, and her prescription was continued.

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Treatment Options

A variety of treatment options are available for patients who screen positive for, or present with, symptoms of PTS. In a study examining the views of patients of Hispanic heritage regarding PTS and its treatment, most participants desired some form of mental health treatment at their primary care center.[4] This reinforces the need to equip primary care providers with the tools necessary to treat the disorder. Common psychopharmacological interventions include the use of selective serotonin reuptake inhibitors or serotonin-norepinephrine reuptake inhibitors (SSRIs or SNRIs), which remain a class A recommendation for the treatment of PTS.[8]

For integrated family medicine practices, referral to a behavioral health provider (e.g. psychologist, social worker) for further evaluation may also be of benefit. Behavioral health providers provide an exceptional opportunity to effectively address the needs of traumatized patients and can often provide brief, time-limited cognitive and behavioral interventions to patients to address their symptoms. Cognitive behavioral therapy (CBT) is a commonly employed, empirically supported treatment for many anxiety disorders, and its efficacy has been scientifically vetted.[9] In a meta-analysis of treatment outcomes for CBT, robust effect sizes were found for the CBT treatment of anxiety disorders and post-traumatic stress disorder (PTSD).[10]

Post-traumatic research on treatment preferences in primary care indicates that 95% of Latinos viewed counseling as an acceptable treatment option for major depressive disorder, but only 59% found pharmacotherapy acceptable.[11] An approach that identifies short-term treatment goals that focus on reducing the severity of these symptoms may further improve patients' acceptance of treatment and increase long-term adherence to effective therapies.[11]

Discussing the link between mental health and physical symptoms may also improve treatment outcomes. Family physicians are encouraged to provide psychoeducation to patients in order to aid them in recognizing and understand PTS symptoms; including most notably the link between traumatic experiences and physical/emotional health.[12]Additionally, education regarding psychotropic medications can improve their acceptability to patients in the treatment of PTS in low-income ethnic-minority women.[13]

Recommendations for Practice

As family medicine physicians and related health care providers, we are uniquely positioned to aid in the identification, assessment and diagnosis of post-traumatic stress. In order to optimize the patient experience, we can strive to increase access to quality health care for immigrants and refugees. We can ensure culturally sensitive approaches to treatment, including using interpretation services, providing language appropriate documentation, and providing a warm, empathetic environment in which our patients have the opportunity to heal. Integrated patient care teams should also consider participating in cultural awareness training to keep current regarding best practices for working with patients of diverse backgrounds. Striving to bridge cultural gaps and to overcome barriers to effective care with our immigrant and refugee patients will lead to an increase in quality care among our patients who may be particularly vulnerable.[2]

Resources

New York State Domestic Violence- Call 1-800-942-6906. The hotline can help people in up to 120 languages.

The New York City Family Justice Centers offer legal and social services to victims and/ or survivors of abuse and their children. These centers provide comprehensive civil legal, counseling and supportive services for survivors of domestic violence, elder abuse and sex trafficking. Located in all five boroughs, their hours are Monday – Friday, 9:00 am – 5:00 pm, with walk-ins accepted. For locations: www1.nyc.gov/site/ocdv/programs/family-justice-centers.page. These resources can link victims to resources that can help women apply for visa protections.

SAFE Center Long Island- www.tscli.org - Offers counseling, shelter as appropriate for women and children

Hispanic Counseling Center - www.hispaniccounseling.org

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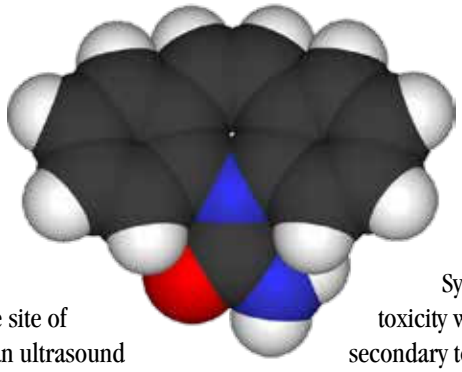
Carbamazepine Toxicity Associated with a Stroke-like Presentation and Seizure:

Case Report and Literature Review

By Alain Tagne Nouemssi, MD and Joon Lee, MD

Carbamazepine was first approved for use in the United States in 1974 for epileptic seizures. From that early indication, the use of carbamazepine evolved to include indications such as mood stabilization in manic-depressive disorder, schizophrenia, and trigeminal neuralgia. Toxicity from acute overdose or chronic use of carbamazepine has been well documented given the numerous interactions it has with other drugs. The most common and critical complications of carbamazepine involve the neurological and the cardiovascular systems and can range from simple ataxia, movement disorders, to more severe central nervous system depression including delirium, or coma. In this report, we describe an acute stroke-like presentation of carbamazepine toxicity in a patient with chronic use, and undergoing chemotherapy for colon cancer.

Our patient is a 49-year-old Hispanic male, with stage 3 colon cancer, post hemicolectomy, and at his ninth round of adjuvant chemotherapy with combination of folinic acid, fluorouracil, and oxaliplatin (FOLFOX). He also has a history of seizure disorder, stable for the past three years on a twice daily, 800 milligram (mg) dose of extended released carbamazepine. He was sent from his oncology clinic to our emergency department for pain and swelling of the right side of his neck, extending to the ipsilateral upper extremity, around the site of insertion of the chemotherapy port-a-cath. In the ED, an ultrasound of the region revealed a focal thrombus at the junction of the right internal jugular vein and brachiocephalic vein. He was diagnosed with deep vein thrombosis. Vascular surgery was consulted for removal of the catheter, and recommended starting a heparin drip. On day 2, the catheter was removed without any complications and the heparin drip was discontinued, with a plan to start a novel oral anticoagulant with considerations for interactions with carbamazepine. At the time of admission, our patient was also taking ferrous sulfate 325 mg twice daily, and a proton pump inhibitor. He was started on his home medications.



By the morning of day 3, our patient was at his 4th dose of 800 mg of carbamazepine in the hospital. Two hours after the administration of the morning dose, he vomited, which was non-bilious and non-bloody, followed by a sudden change in mental status and dysarthria. On exam, his pupils were equal and bilaterally reactive, but he was unable to stand up, despite a normal and full range of motion of all four extremities, and no grossly visible focal deficits, or dystonia. An examination of his tongue showed a 1 centimeter laceration in the dorsal portion, raising concern of the postictal phase from a subtle or unwitnessed recent seizure. A more detailed neurological examination revealed diffuse, multifocal myoclonus, gaze-evoked nystagmus, and 3+ positive deep tendon reflexes, with downward trending toes. These findings were concerning for a central nervous process, namely a brainstem or cerebella injury, secondary to a toxic or vascular insult.

The initial work up included basic laboratory tests such as a comprehensive metabolic panel, vitamin B12 level, and drug screening including carbamazepine levels. A CT of his head revealed no evidence of acute intracranial hemorrhage or infarction. His carbamazepine plasma levels measured at toxic levels above 20 mcg/mL (normal 4-12mcg/mL), and was discontinued immediately, while intravenous fluids were started. However, the patient remained confused, with worsening slurring of his speech, and an inability to stand or move his extremities. A brain MRI with and without contrast showed normal brain stem structures, seventh and eighth cranial nerve complexes, cerebellopontine angle structures, as well as the ventricles and cisterns. No evidence of brain metastases, bleeding, or ischemia were evident. His plasma carbamazepine remained at a toxic level for more than 48 hours after discontinuation, then progressively trended down to below a therapeutic range. Simultaneously, the patient's mental status improved, as well as the dysarthria and the ataxia, which completely resolved within 72 hours after discontinuation of carbamazepine. He returned to his baseline and was discharged on a different anti-seizure drug, with consideration for long term anticoagulation.

According to the American Association of Poison Control Centers (AAPCC) National Poison Data System, a total of 1880 cases of carbamazepine toxicity were reported in 2014.[1] Most of those cases were secondary to unintentional rather than intentional exposure and no deaths were reported. Most of the unintentional exposure correlated more with the adverse effects of carbamazepine rather than true poisoning. Despite numerous drug-drug interactions, carbamazepine represents one of the most commonly prescribed seizure medications. It acts via different mechanisms, from blocking glutamate release by binding to inactivated sodium channels, to its anticholinergic effects. This explains the presence of anticholinergic poisoning-like syndrome, hypotension, and/or arrhythmias in acute intoxication.[2]

There is also another paradoxical effect described on adenosine receptors. At a therapeutic dose, carbamazepine inhibits presynaptic reuptake of adenosine, modulating and inhibiting the glutamate neurotransmission and producing its anti-seizure action. However, at toxic levels, this inhibition results in a proconvulsant effect, explaining the seizure activity seen in carbamazepine toxicity. Beyond the complexity of these mechanisms, especially in overdose, oral carbamazepine absorption is erratic, unpredictable, and often prolonged. Peak plasma concentrations generally occur within 4-8 hours, but can be prolonged for up to 96 hours after ingestion of a controlled-release formulation.[3] The half-life of carbamazepine also increases from 12-17 hours at therapeutic levels, to 20-36 hours in overdose.[4,5] This pharmacokinetic explains the complexity and unpredictability of carbamazepine toxicity.

Our case illustrates the etiologic challenge in a patient with new onset and worsening neurological symptoms, who has risk factors for stroke, mainly a thromboligenic state and a potential source for thrombus. The initial presentation was concerning for an acute embolic cerebrovascular

continued

accident because he developed stroke-like symptoms following the removal of a thrombosed chemotherapy port. He had been on long-term carbamazepine therapy at the same dose, and reported normal therapeutic drug monitoring. He was also undergoing FOLFOX cancer chemotherapy and was not receiving any other drugs known to interact with carbamazepine. A full work up for cerebral causes returned negative, which was puzzling, until carbamazepine levels returned at toxic levels. This illustrates how misleading presentation can be and the need for a low threshold when considering carbamazepine as the cause of cardiovascular and/or neurological dysfunction. The symptoms and the laboratory findings indicated carbamazepine toxicity occurred in our patient after the last two doses were given 2 and 14 hours earlier. This is different from the time interval of 4-8 hours described for the plasmatic peaks of carbamazepine, but typical of the erratic characteristics of carbamazepine pharmacokinetics, especially at toxic levels.

In the literature, numerous drugs have been described as causing carbamazepine accumulation and toxicity. The common mechanism is the inhibition of the cytochrome P450 isoenzyme used in its hepatic metabolism. Cases of carbamazepine toxicity in children after association with erythromycin have been well documented.[6,7] Other cases have been described involving concomitant use of fluoxetine, terbinafine, cimetidine, simethicone[8-10], and even grapefruit juice.[11] In our case, beyond the bi-weekly chemotherapy, the only medication reported by our patient was a proton pump inhibitor which uses a different hepatic cytochrome and had no reported interactions with carbamazepine. In reviewing the literature, we did not find any cases of carbamazepine toxicity associated with heparin, or FOLFOX co-administration. Rather, carbamazepine is currently used for treatment of neuropathy associated with oxaliplatin, a component of the FOLFOX regimen.[12]

A detailed medical history is and remains invaluable in determining the etiology of intoxication in most cases. After repeated discussions with our patient and his family, we established that prior to his hospital admission, he had been self-managing his carbamazepine, often using lower than prescribed daily doses depending on his mood and feelings. Once he was admitted and in the care of the hospital team, he consistently received the first 4 doses as prescribed. This was probably the first time he had been on a consistent amount of carbamazepine every 12 hours. We concluded that the original prescription was or had become supra-therapeutic, and that the patient did not experience side effects earlier because toxic levels were not reached while he was an outpatient. In the end, with carbamazepine discontinued, our patient recovered and was switched to a different anti-epileptic drug.

Another question we had during the review of our case was about drug monitoring and whether a plasma carbamazepine level should have been obtained on admission, and/or would have made a difference. His last carbamazepine plasma level, taken 3 weeks prior to admission, was within therapeutic range, and we did not believe it needed to be repeated. According to the Commission on Antiepileptic Drugs of the International League Against Epilepsy, routine antiepileptic drug level monitoring is not indicated. Monitoring antiepileptic drug levels is not cost effective and it can also be dangerous if the patient's seizure is under control. The National Collaborating Centre for Primary Care agrees, and recommends monitoring only when clinically indicated.[13,14] In a randomized control trial on therapeutic drug monitoring, Jannuzzi et al showed no significant difference in terms of side effects whether monitored or not in patients who achieved a 12-month seizure free remission.[15]

In this case, stopping the carbamazepine led to dramatic resolution of the altered mental status, and progressive improvement of the stroke-like symptoms. Most cases of toxicity described in the literature have had an identified culprit drug that caused carbamazepine to accumulate, or were cases of accidental or intentional overdose. These factors can be easily identified by a thorough medical history, emphasizing whether the patient is taking the medication as prescribed, or self-adjusting the dose. As illustrated here, patients might self-manage the daily dose of long term medications they take based on past experiences, or friends or family recommendations. This can lead to accidental overdose when they are submitted to a strict medication administration regimen, and doctors should be aware of this, especially for a drug such as carbamazepine.

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Geriatrics and Aging: Choosing Wisely Recommendations

By Jocelyn Young, DO; Mary Bonnet, MD; and Colleen T. Fogarty, MD, MSc, FAAFP

Previous articles in *Family Doctor* have focused on evidence based recommendations from the Choosing Wisely campaign, an evidence-based set of guidelines endorsed by the American Academy of Family Physicians and many other specialty associations. The Graham Center report in 2009 reported that at the time, an estimated 30,000 geriatricians would be needed by 2030 to care for the aging population and that family physicians would be playing a key role in the care of older patients.[1] This article focuses on eleven guidelines related to screening and treatment of chronic conditions in geriatric patients.

Screening

When screening for colorectal cancer in adults one must balance the risks of screening and the potential harms of treatment, with the potential benefits, or lack thereof. The American Geriatrics Society (AGS) does not specify an age or time limit for cancer screening (breast, colorectal, prostate or lung) and recommends considering life expectancy along with the risks of testing, over-diagnosis and overtreatment.[2] The Society of General Internal Medicine recommends against screening adults with less than 10 years life expectancy for cancer.[3] In the case of lung cancer screening, the low dose CT scan testing shows benefit for healthy patients less than 65 years of age, but there is no evidence of benefit vs risks for those older or with other co-morbidities.[2] The American College of Surgeons recommends avoiding colorectal cancer screening on asymptomatic patients with life expectancy less than 10 years and no family or personal history of colorectal neoplasia.[4]

Care of Chronic Conditions

In older adults with type 2 diabetes, AGS recommends the avoidance of medications aside from metformin to achieve hemoglobin levels <7.5%.[5] The risks of tight glycemic control in these patients include hypoglycemia, while benefits such as improved microvascular outcomes have diminishing returns due to the shorter duration of use. To that end, the AGS recommends hemoglobin A1c targets of 7.0-7.5% in healthy older adults with long life expectancy, 7.5%-8.0% in older adults with moderate comorbidity and life expectancy less than 10 years, and 8.0-9.0% in those with a shorter life expectancy.[5] They recommend the continuation of metformin long term for reduction in myocardial infarction and mortality risk associated with its long term use. As the newer classes of non-insulin diabetes mellitus medications become more widely used, we should be on the look out for updated recommendations.

In older adults with hypertension, there is evidence that maintaining a goal systolic blood pressure <150 reduces stroke incidence, all cause mortality, and heart failure according to recommendations from the Society for Post-Acute and Long-Term Care Medicine.[6] However, in the long term care setting there is less strong evidence for achieving lower systolic blood pressure goals. They recommend that in community dwelling individuals, the goal blood pressure remains <140 for those with increased cardiovascular risk.[6] The risks of tighter blood pressure control include increased risk of serious falls and injury in frail older adults.

Hospital and Facility Care

The Society for Post-Acute and Long-Term Care Medicine provides recommendations to consider in frail older adults when considering the need for hospital level care.[7] They recommend engagement in advance care planning that includes the discussion of hospitalization preferences. The risks of hospital level care include delirium, physical deconditioning, hospital acquired infections, and side effects from both medications and treatments. These risks tend to be even greater for adults in the long term care setting who often have underlying dementia, functional limitations, and multiple co-morbidities. According to the recommendations, patients who have "do not hospitalize" status in an effort to opt out of more aggressive treatment options are less likely to suffer the risks of hospitalization.

In hospitalized patients with delirium, the AGS recommends against the use of physical restraints, even in patients who may become a threat to self or others.[8] Studies have shown that restraints can worsen delirium and not improve outcomes. Remove all tethers a patient may have such as IV, or telemetry. Strategies should be focused on alleviating patient discomfort and reorienting the patient, such as prominently displaying time of day with "AM" and "PM" and keeping curtains drawn or closed. If reorientation is not successful, it is recommended that staff discontinue efforts and observe the patient to discern cues as to what their needs may be.

Psychoactive Medications

Cholinesterase inhibitors are a class of medication approved to slow the progression of Alzheimer's dementia. Frequently when patients are admitted to the hospital with advanced dementia they will continue to take these medications. However, according the American Geriatrics Society, if the desired effects of these medicines, specifically stabilization of cognition, are not perceived within the first 12 weeks of therapy, they should be discontinued to avoid side effects.[9] It is not known if use of this class of medications delays the need for long term care, improves quality of life, or lessens the caregiver burden. There is also not yet strong evidence that cholinesterase inhibitors improve cognitive testing in a clinically significant way.

Furthermore, the AGS and American Psychiatric Association recommend against prescribing antipsychotics for patients with dementia, even those who exhibit aggressive or disruptive behaviors.[10,11] This class of medications can cause sedation, worsening cognition, increased falls risk, and even increased mortality. It is also important to first address whether these behaviors are distressing to the patient versus the patient's caregiver. Often a patient may experience delusions/behaviors that he or she may not be bothered by, and in this case it is recommended to avoid medications and provide education and support to family and caregivers.

In terms of treatment of delirium, there is emerging evidence that benzodiazepines, such as lorazepam, and antipsychotics, such as Haldol, may have a role, especially when used simultaneously.[12] However, the AGS continues to recommend against this as these types of medications have consistently been shown to increase the risk of motor vehicle accidents, falls and hip fractures leading to hospitalization and

continued

death.[13] While we do not recommend routine, consistent use of benzodiazepines or antipsychotics, we encourage you to evaluate each patient on a case-by-case basis and consider the risks and benefits.

In summary, the Choosing Wisely campaign provides important evidence-based guidelines designed to avoid harm to patients. Compared with younger patients, diabetes and hypertension goals are more liberal, and screening for cancers should consider life expectancy, particularly in light of co-morbid conditions. When considering hospital or facility care, health care teams should carefully consider the risks of hospitalization for frail elders and avoid restraints. Psychoactive medications should be carefully considered, and not used in cases when the risks outweigh the harms.

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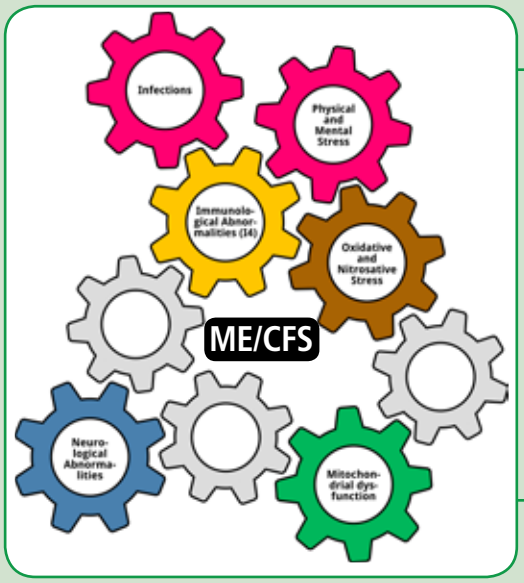
Editor's Note: The NYSAFP Editorial Board, as well as our authors encourage and appreciate feedback from our readers. Please share your clinical experience and comments about this illness or any others that have been featured in this issue.



Myalgic Encephalomyelitis/ Chronic Fatigue Syndrome: What Every Family Physician Needs to Know

By Mary Dimmock, Susan Levine, MD, and Terri L. Wilder, MSW

Introduction

Myalgic encephalomyelitis (ME), also known as chronic fatigue syndrome (CFS) or ME/CFS remains an elusive diagnosis to most family and primary care practitioners. There are currently no Federal Drug Administration (FDA) approved treatments specific to this disease. Clinical guidance has often recommended cognitive behavioral (CBT) and graded exercise therapy (GET), but these therapies are inappropriate and potentially harmful for patients with ME/CFS.[1] In 2015, the Institute of Medicine (IOM, now called the National Academy of Medicine) issued new clinical diagnostic criteria for ME/CFS and summarized the growing evidence of biological impairment.[2] Since then, the National Institutes of Health (NIH) has funded three Centers of Excellence to study ME/CFS,[3] a pediatric ME/CFS primer has been published,[4] and the Centers for Disease Control (CDC) has updated the diagnostic and treatment information on its website.[5] Family physicians have a critical role to play in providing early diagnosis and effective treatment of this disabling disease.

History

ME/CFS has existed throughout the twentieth century but has been both maligned and misunderstood as a result of a lack of research, a paucity of diagnostic tests and FDA approved treatments, and because of non-specific diagnostic criteria that included patients with other diseases. As a result, patients with ME/CFS have remained unidentified or have been misdiagnosed and thus have struggled to get proper clinical care.

Further complicating our understanding of ME/CFS, a significant number of ME/CFS research studies have focused on the role of psychogenic factors in the development and perpetuation of the disease.[6] These studies were based on the unproven theory that the severity and poor prognosis of ME/CFS was due to the patients' harboring a fear of activity and thus becoming deconditioned and that these could be reversed with CBT and GET.[7] Unfortunately, the most commonly recommended treatments in ME/CFS clinical guidance have been CBT and GET, based on these false presumptions.[8]

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Other researchers have focused on evidence of biological pathology across multiple systems, including the characteristic abnormal response to exertion. In 2015, IOM reviewed the published evidence for the biological underpinning of ME/CFS and concluded that the disease is not psychological or due to deconditioning.[9] Based on the findings of more than ten thousand peer-reviewed articles published worldwide, it is clear that ME/CFS is a chronic, multi-system disease associated with neurological, neurocognitive, immunological, autonomic, and aerobic energy metabolism impairment.[10] The IOM report called attention to the disease's hallmark symptoms, such as post-exertional malaise (PEM), a delayed exacerbation of symptoms and a loss of stamina following even trivial cognitive or physical exertion. To address the problem of under- and misdiagnosis, the IOM report also established new clinical diagnostic criteria, which require the presence of the following core symptoms: substantial impairment in activity accompanied by exhaustion; post exertional malaise; unrefreshing sleep and neurocognitive or autonomic dysfunction, all of which must have been present for at least 6 months.

Supporting the conclusions of the IOM report, the Agency for Healthcare Research and Quality (AHRQ, part of Health and Human Services) published a 2016 addendum to a 2014 evidence review that downgraded the 2014 recommendations for CBT and GET, because the supporting studies had included patients with other `fatiguing' illnesses.[11] AHRQ also reported that harms were generally underreported but that GET trials were "associated with higher numbers of reported adverse events." Patient surveys have also reported a worsening of symptoms following both GET and CBT. [12]

Since the IOM report, the NIH has undertaken an intensive intramural study to better characterize the pathophysiology of the disease[13] and in September 2017 awarded a 5-year, $35 Million grant to three centers to spur research and effective collaboration among researchers, clinicians and the ME/CFS patient community. Two of these centers are in New York, at Columbia's Mailman School of Public Health and at Cornell University. Also in 2017, a pediatric ME/CFS primer was published providing specific guidelines for the diagnosis and treatment of this disease in children and adolescents and the CDC updated its ME/CFS website, adopting the IOM's clinical diagnostic criteria and removing CDC's earlier recommendations for CBT and GET.

Demographics and Presentation

ME/CFS is believed to affect approximately one million Americans, but quality epidemiological studies are limited and the actual disease prevalence could be higher.[14] The IOM reported an estimated prevalence of 1 to 2.5 Million Americans, which amounts to 62,000 to 125,000 in New York State. ME/CFS affects more women than men and affects people of all socioeconomic backgrounds, age ranges and ethnic and racial diversity. There are no simple diagnostic tests or biomarkers, and there are no FDA approved treatments specific to this disease. The IOM report estimated that as many as 84-91% of patients are not diagnosed.

The onset of ME/CFS is often sudden, typically following a viral or other type of infection but may occur following other types of physical trauma. In other cases the disease may develop gradually, over a period of weeks or months. Patients describe feeling `flu-like' symptoms chronically. In addition to the characteristic post-exertional malaise (PEM), patients may also experience cognitive impairment, unrefreshing sleep, autonomic manifestations, such as heart rate variability and excessive sweating, and also experience muscle and joint pain and sound, light, and chemical sensitivity. Elevated antibody titers to viruses may be present, in addition to low levels of autoimmune serology.

ME/CFS can present with a wide range of severity. Even in the same patient, the level of severity can change over time and from day to day as symptoms wax and wane. People with ME/CFS are unable to go about their daily activities in a predictable or consistent manner. The IOM report stated that up to 70% of patients are unable to work and one quarter remain bed- or housebound (the latter however may be an underestimate). The IOM report stated that patients with ME/CFS are more functionally impaired than those with "type 2 diabetes mellitus, congestive heart failure, hypertension, depression, multiple sclerosis, and end-stage renal disease."[15] Caring for severely disabled patients can put an enormous fiscal and emotional strain on family members and other caretakers.

Recovery is rare and as a result, patients can remain ill for decades. The IOM report estimated burden on the American economy is $17-24 billion annually in lost productivity and in direct medical costs.

Clinical Diagnosis

Previously, ME/CFS was considered a diagnosis of exclusion but the IOM criteria provide for the presence of certain "core" criteria in order to make the diagnosis of this disease. The IOM clinical diagnostic criteria for ME/CFS require:

- A substantial impairment in ability to engage in activity that lasts six months or more, is accompanied by fatigue, is not lifelong, is not the result of ongoing exertion and is not alleviated by rest
- Post-exertional malaise
- Unrefreshing sleep
- At least one of cognitive impairment or orthostatic intolerance

Sleep studies may identify co-morbid sleep apnea whereas the results of a tilt table test can confirm the presence of Postural Orthostatic Tachycardia Syndrome (POTS). Neuropsychiatric testing typically shows impaired working memory and slowed information processing. Querying the patient's response the day after activities that were previously tolerated can help determine the presence of post-exertional malaise (PEM). The 2-day cardiopulmonary test (CPET) is used to measure anaerobic threshold, which is reduced in this disease and confirms the seminal finding of PEM.

A number of co-morbidities can be seen in ME/CFS, the most common of which include fibromyalgia, POTS, mast cell disturbances, and certain autoimmune disorders. These will need to be managed as appropriate for each condition.

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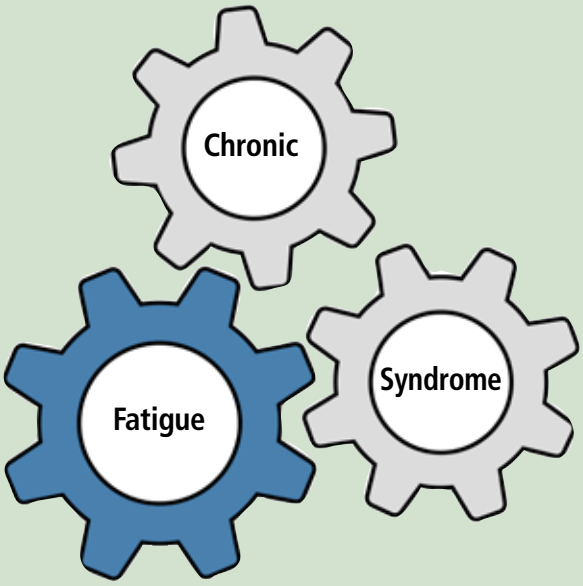
Treatment

A noted above, there are no FDA approved treatments for ME/CFS. However, there are interventions that the family physician can provide to help patients with this disease. First and foremost, the family physician can explain post-exertional malaise and the associated aerobic metabolism impairment. For some people, exertion as minor as tooth brushing or eating can trigger PEM and a crash. People with ME/CFS should not exceed their "energy envelope" and they should use an activity management approach called "pacing" to not exceed their limits. Family physicians can also prescribe therapies that relieve symptoms, including those for sleep, pain, and orthostatic intolerance, including IV saline and Florinef. For patients with elevated viral titers, antiviral medications can help reduce symptoms. Patients often use earphones, earplugs, sunglasses, and eye masks to relieve the sensitivities to light and sound.

Family physicians can also support patients by explaining the disease to the family and supporting applications for disability. Social security accepts the 2-day CPET as objective evidence to support a disability claim. If this test is not easily available, a thorough explanation from the clinician caring for a patient with ME/CFS that describes the patients' daily activities may suffice.

Conclusions

Family physicians have an important role to play in the diagnosis and care of people with ME/CFS. In May 2017, New York State Commissioner of Health Dr. Howard Zucker sent a letter to NYS physicians encouraging them to include ME/CFS as part of the differential diagnosis when evaluating patients with these symptoms.[16] The clinical diagnostic criteria published by the Institute of Medicine (IOM) are an important tool in this differential diagnosis that can result in faster and more accurate diagnosis. They can also provide the basis for treatment recommendations that can relieve symptoms and minimize post-exertional crashes. Most importantly, the family physician can validate the patient's experience and ensure that the patient is not harmed by inappropriate treatment recommendations for exercise or talk therapy intended to convince the patient they are not ill.



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Memory Loss: Is it Aging….is it

By Lauren Derbodge, MD; David Kaye, MD; and Ralph Benedict, PhD

Background

When an elderly patient presents to a family physician's office with the complaint of memory loss, it is not always easy to decipher the etiology. Sometimes a patient's changes in memory are consistent with normal aging and are no cause for alarm. At other times memory complaints reflect underlying depression. Often of greatest concern, memory complaints may reflect neuropsychological impairment, abnormalities for age that reflect Alzheimer's disease, cerebrovascular disease or other less common neurodegenerative diseases seen in the elderly. Mild cognitive impairment (MCI) is diagnosed when neuropsychological deficits are mild, and/or restricted to a single domain of cognitive function. In this article we take a clinical approach to differential diagnosis and offer practical guidance for the family physician.

As people age their memory does change.[1] Memory is not a unitary function and different aspects of memory may be impacted differentially as one ages. Long term memory is divided into two broad types: implicit or explicit (also referred to as declarative). The memory deficits manifest in the clinical setting most often involve a failure to consolidate new information into long-term storage. In Alzheimer's disease and other dementias affecting the cerebral cortex, declarative memory is affected whereas procedural memory, the most common form of implicit memory, is spared. One aspect of declarative memory is semantic memory, which is knowledge of events, facts, and concepts and includes vocabulary knowledge. There is little degradation of semantic memory with aging although access to names can become less efficient. Episodic memory, another type of declarative memory, refers to the conscious recollection of autobiographical events. This is the aspect of memory that is most likely to decline with aging. Not surprisingly, neuropsychological testing emphasizes episodic memory.

Conditions Presenting with Memory Complaints

1. **Dementia of the Alzheimer's Type**
   Dementia, now diagnosed as a Major Neurocognitive disorder (MNCD) in DSM 5 (see Table 1), is a common and often age-associated condition that may be treatable. Dementia affects 5 percent of people between the ages of 71 and 80 and more than 37 percent of people over the age of 90 in the United States.[2] There are many diseases and medical disorders that give rise to dementia, with the most common form of dementia among the elderly being Alzheimer's disease. DSM 5 emphasizes that MNCD results in dysfunction in multiple cognitive domains, not just memory. In addition to abnormal decline in episodic memory, patients with AD also typically have slowed or inaccurate retrieval from semantic memory stores (also referred to as a language disorder), attentional deficits, and executive dysfunction. If you suspect a MNCD, the American Academy of Neurology and the National Institute for Health and Care Excellence recommend obtaining a metabolic panel, liver function tests, complete blood count, thyroid function studies, vitamin B12 levels, and folate levels.[3,4] When indicated, other underlying pathology may be considered with additional tests, such as a heavy metal screen, HIV, syphilis serology, toxicology, electrocardiogram, and chest radiography. Neuroimaging is generally recommended for suspected dementia.

   Finally, the situation calls for some appraisal of cognition, based on performance rather than subjective complaints.[5] Dementia can be screened effectively with the **Mini-Mental Status Exam (MMSE or Folstein)**, a 30-item test widely used in clinical settings.[6] While the test is correlated with age and education, rough benchmarks are as follows: 0-10 indicates severe cognitive impairment, 11-20 is moderate, 21-26 is mild, and >27 is normal. The MMSE is the most widely studied screening instrument but

continued

has been criticized for its length and cost. Another screen for cognitive impairment is the **Montreal Cognitive Assessment (MOCA)** which can be accessed online at http://www.mocatest.org. The MOCA is a 30-point test which addresses multiple domains including attention, concentration, recall, orientation, verbal fluency and visuo-spatial ability. It is available in many languages. More sensitive for detecting milder impairment than the MMSE, a score of 26 or higher suggests normal cognitive functioning. Patients with MCI and Alzheimer's dementia have average scores of 22 and 16 respectively. As with all cognitive performance tests, clinicians should account for age and education when interpreting test scores. **The Mini-Cog** is an even briefer screening test for MCI and dementia, and consists of three-word recall and the clock-drawing test.[7] The Mini-Cog can be accessed online at http://www.alz.org/mnnd/in_my_community_59110.asp Other brief screening instruments have been increasingly utilized and may be used in the future in primary care, e.g. Rapid Cognitive Screen, General Practitioners Assessment of Cognition, and the informant questionnaire Ascertain Dementia 8 (AD8).[8,9,10]

Assessing instrumental ADLs is also essential and an instrument such as the Functional Activities Questionnaire (available at http://www.healthcare.uiowa.edu/familymedicine/fpinfo/Docs/functional-activities-assessment-tool.pdf) is brief and validated.[11] The Clinical Reasoning Model put forth by the Center for Family Medicine Memory Clinic (http://www.cfp.ca/content/suppl/2013/03/12/59.3.249.DC1/Brain_map.pdf) outlines a practical approach to assessing the elderly patient with memory difficulties.

When patients screen positive for cognitive impairment or suspicion is high then referral to a specialist in dementia and cognitive impairment may be indicated. Many larger communities have memory clinics that may be good referral resources. Alternatively a neurologist, neuropsychologist, or geriatric psychiatrist can provide further evaluation and management.

Mild cognitive impairment (MCI), or Mild Neurocognitive Disorder in DSM 5, is a diagnosis assigned to patients with definite, but modest, cognitive impairments, and with preserved instrumental activities of daily living (e.g. paying bills, managing medications). In MCI, there is objective evidence of cognitive impairment in one or more cognitive domains.[12] MCI appears to be a transitional phase between normal aging and Alzheimer's dementia, as 60-80% of patients with MCI progress to dementia. Screening for MCI can be done with the aforementioned tests.

Table 1
DSM 5 Criteria for Major Neurocognitive Disorder

A. Evidence of significant cognitive decline from a previous level of performance in one or more cognitive domains (complex attention, executive function, learning and memory, language, perceptual-motor, or social cognition) based on:

1. Concern of the individual, a knowledgeable informant, or the clinician that there has been a significant cognitive decline AND
2. Impairment in cognitive performance, preferably documented by standardized neuropsychological testing or, in its absence, another quantified clinical assessment

B. The cognitive deficits interfere with independence in everyday activities (e.g. requiring assistance with complex instrumental activities of daily living such as paying bills or managing medications

C. The cognitive deficits do not occur exclusively in context of a delirium

D. The cognitive deficits are not better explained by another mental disorder (e.g. major depression, schizophrenia)

2. Major Depression is also extremely common in the elderly and quite treatable. Depression is present in 1-2% of the geriatric population at any point in time, and up to 20% of elderly adults are diagnosed at some point.[2] Depression should also be considered in the differential in elderly patients presenting with complaints of attentional impairment, memory loss or other cognitive deficits. "Pseudodementia" is a term that has been historically used to describe reversible cognitive changes secondary to a primary psychiatric disorder, typically depression in the elderly.[13] This term is no longer endorsed, in favor of more current terms such as "Depression-Related Cognitive Disorder". Although attention, working memory, processing speed, and decision making are impaired in depression, longer term memory functions and the capacity to perform independent activities of daily living are generally intact. With successful treatment these cognitive deficits improve. Elderly depressed patients generally complain about these changes and worry that they have dementia. Unlike depressed patients, those with advanced dementia often respond with denial and avoidance of cognitive deficits. However the relationship between depression and dementia is complex as late life depression may be a response to incipient dementia or a comorbid condition in patients with dementia.

Depression can be screened with the **Patient Health Questionnaire (PHQ)** or the **Geriatric Depression Scale (GDS-30/GDS 15)**.[14] These can be accessed online at http://www.phqscreeners.com/overview.aspx and http://web.stanford.edu/~yesavage/GDS.html respectively. The Patient Health Questionnaire 2 is a valid screening tool in older people but when positive should be followed up with a PHQ 9 which is a 9-item scale that assesses for depressive symptomatology over the past 2 weeks. The patient scores the presence of these symptoms from zero (not at all) to 3 (nearly every day). A score of 5 or higher indicates depression. The higher the score, the more severe the depressive disorder. The Geriatric Depression Scale (GDS) has 15 or 30 question versions although the GDS 30 has much better psychometric validation. The GDS 30 consists of yes-no questions with a positive screen > 10. Note that some of the questions are worded so that a "no" score is positive.

continued

Case Examples

The following clinical vignettes depict cases of elderly patients with complaints of memory loss presenting in a primary care setting.

Case 1: Mr. T is a 68 year-old Caucasian male, who retired 2 years ago and was brought in by his wife and adult son to his family physician's office with a chief complaint of "personality change" over the past few months. Mr. T appears dysphoric, anxious, distressed, and feels like he "can't remember anything". He clarifies that his long term memory for events seems good but he is frequently distracted, often looking for his keys and can't remember why he went to the store. He reports difficulty falling asleep and feeling "exhausted". His wife notes that he has been more isolated and withdrawn. He no longer plays golf or reads mystery novels, activities that he used to enjoy very much. His son states that his father often appears confused, and has been more irritable towards his family. Despite this he has been able to make meals, drive, and shop without any sign of difficulty.

Mr. T's medical history is significant for mild hypertension and hyperlipidemia, which are well controlled with lisinopril and atorvastatin. Mr. T admits to being "a worry-wart" all his life and had a period of depression when he was younger and was out of work for a few months, but has never been formally treated.

Vital signs and physical exam of the patient, including neurological exam, are unremarkable. Mr. T is reluctant to participate in a Mini-Mental Status Exam (MMSE) and often responds with "I don't know". With much encouragement, he is able to complete the test and scored 28/30. He recalls only 2 out of 3 objects after 3 minutes and is able to perform four out of five serial subtractions correctly. On the Clock Test, he is able to draw a clock face and place the hands correctly for "ten past 11". He is oriented x3. He scores 19 on a Patient Health Questionnaire 9 (PHQ-9).

Discussion: Mr. T appears to be suffering from a moderately severe major depressive disorder. He endorsed feelings of sadness and worthlessness, sleep disturbance, low energy, and decreased interest in activities that previously gave him pleasure. His functioning is clearly impaired and a diagnosis of major depression is confirmed by his elevated PHQ score. Depression typically interferes with attention, persistence, and motivation and he showed evidence of these difficulties which can contribute to or appear to be "memory" problems. He is particularly distressed by his perceived difficulties with memory and concentration, but performed satisfactorily on MMSE and clock drawing. His ADL functioning appears to be intact. Like many depressed patients he had difficulty sustaining his effort but was able to perform satisfactorily. This all points away from a neurocognitive disorder. His past history of anxiety and depression elevate his risk for subsequent periods of depression. It is important however, to consider other potential contributors to depression or cognitive changes in the elderly (e.g. medication related, substance abuse, anemia, metabolic, neurologic, or endocrine disorders such as hypothyroidism or vitamin B12 deficiency). Depending on physical exam and ROS, basic labs would be reasonable.

In addition, while major depression would seem to explain his presenting complaints and history, it is nevertheless still possible that an incipient neurocognitive defect is contributing to his psychiatric condition. The astute clinician will assess him again after he shows a positive response to antidepressant therapy.

Geriatric patients have relatively high rates of suicide and PCPs should screen all patients with major depression for suicide risk. Successful treatment of depression, with antidepressant medications, therapy, or a combination of the two, should also result in resolution of the cognitive symptoms.

Case 2: Mr. B is a 76 year-old man who presented to his family doctor, accompanied by his wife, who is very concerned about him. He is withdrawn and not playing poker with his friends as he had in the past. She states that recently while driving, the patient had difficulty navigating through their neighborhood. He used to play piano but now appears confused as if he doesn't know how to. She has also noticed that he has been misplacing objects, such as his keys and wallet. Additionally, she notes that Mr. B tends to forget his appointments and needs frequent reminders. She worries that he may be depressed. She is not sure when exactly these changes began but notes these changes on and off for 6 months to a year.

When the family physician asks Mr. B about his wife's concerns, he appears relatively unphased. He shrugs his shoulders and states, "I may be a little more forgetful lately". Despite his nonchalance, Mr. B is engaged and cooperative during the visit.

Mr. B's medical history is significant for hypertension, hyperlipidemia, and coronary artery disease, status post cardiac stenting. He smoked 1 pack of cigarettes daily for 30 years, before quitting 15 years ago. His medications include aspirin, clopidogrel, metoprolol, lisinopril and atorvastatin. His blood pressure is 135/90, otherwise his vitals are within normal limits. His gait and speech are both somewhat slowed, but otherwise his physical exam is unremarkable. His affect appears somewhat restricted. He denies feeling depressed. During the mental status exam, Mr. B appears to put forth extensive effort during the tasks. He is oriented to person and place but not to the date. He can recall two of three objects on immediate recall, and recall one of three objects after about four minutes. He is able to perform only two of five serial subtractions despite visible efforts to concentrate on the task. His score on the MMSE was 22.

Discussion: Mr. B's history and cognitive testing points to a diagnosis of dementia. In dementia syndromes, such as Alzheimer's disease, the pattern of memory loss tends to be more global. Cognitive deficits are apparent in multiple areas, not just short-term memory. Episodic memory appears to have declined (trouble remembering appointments, misplacing objects, mistakes in card games that he didn't previously make). Procedural memory also appears to have been impacted in this case (loss of ability to play piano). His independent ADLs are impaired. During the family physician's exam, Mr. B showed good effort on the MMSE, but his score was below the clinical cutoff.

Patients presenting with cognitive changes secondary to Alzheimer's dementia typically demonstrate a more gradual onset of symptoms (e.g. months to years) which is the case for Mr. B. They often tend to try to conceal, compensate for, or minimize their deficits. Unlike depressed patients,

continued

who are typically quite distressed about memory changes, these patients can appear unconcerned. When it comes to performance during MMSE, or other cognitive tests, patients suffering from Alzheimer's dementia may become evasive or make significant effort but struggle with performance on tasks. Collateral information from family members is generally crucial for this diagnosis as it is in Mr. B's case.

While Alzheimer's disease is the most common cause of senile dementia, other diseases, such as Lewy body dementia (a variant of Parkinson's disease), cerebrovascular disease, multiple sclerosis, and alcohol-related dementia can also present with cognitive impairment. Differentiating these conditions is generally best done by a neurologist, neuropsychologist, geriatric psychiatrist, or other neurocognitive specialist.

Case 3: Mrs. A is a 78 year-old woman, who presents to her family physician with a chief complaint of "forgetfulness". She reports that she had to reschedule her appointment, as the date of the last one "completely slipped my mind". Mrs. A describes misplacing objects in her home. She has also noticed that she cannot always recall the birthdays of her eight grandchildren. She denies difficulties with tasks at home, including cooking, cleaning and paying her bills. She admits that the death of her husband three years ago was difficult for her but she denies feeling depressed. She continues to meet her friends weekly to play bingo, though she feels like she cannot keep up with the game like she used to. Mrs. A is unable to pinpoint exactly when these changes began but notes that it seemed like a gradual process. Her children confirm her history.

Mrs. A's medical history is significant for osteoarthritis and gastro-esophageal reflux disease. Her current medications include omeprazole, a multivitamin and acetaminophen as needed for pain. On exam, Mrs. A is pleasant, cooperative and moderately anxious appearing. She states that she is very worried she has dementia. Her physical exam, including neurological exam is unremarkable. She is oriented to place and time. On MMSE, she scores 29/30, losing one point for recalling 2/3 objects on delayed recall. However, on the Montreal Cognitive Assessment (MoCA) she scores 22/30.

Discussion: Mrs. A's presentation is suggestive of Mild Cognitive Impairment (MCI). She describes cognitive changes that do not significantly impact her functioning in terms of ADLs, but do cause her significant distress. Patients with MCI can have normal or close to normal scores on MMSE, which can lead to their cognitive deficits being under-recognized by physicians. Instruments such as the MoCA appear to be more sensitive to the more subtle cognitive changes associated with MCI.

Conclusion

It can be diagnostically challenging when an elderly patient presents to their primary care physician with complaints of memory loss. History from both the patient, as well as informants, such as family members is essential in pursuing a differential diagnosis. The use of objective screening tests is imperative to guide the diagnostic process. Many patients with suspected MCI or dementia can be evaluated and managed within primary care, especially when primary care based interprofessional expertise is available[15], but may benefit from referral to a memory clinic, neurologist or geriatric psychiatrist with specialized expertise in memory deficits. Evaluation by a neuropsychologist can be critically helpful in this process as well.

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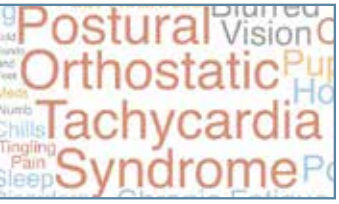

Diagnosing and Treating Postural Orthostatic Tachycardia Syndrome

By Michael Enechukwu, MD and Svetlana Blitshteyn MD, PC

The autonomic nervous system (ANS) is responsible for regulating critical involuntarily physiologic functions, such as blood pressure, heart rate, digestion, and cerebral blood flow. Among various autonomic disorders, postural orthostatic tachycardia syndrome (POTS) affects an estimated 1-3 million Americans.[1] Despite being fairly common, autonomic disorders are rarely discussed in medical schools or residency programs. Due to limited awareness of POTS by physicians, the average diagnostic delay for patients is over four years.[16] This article will review practical diagnostic and treatment approaches to POTS for family practice. The review will also include a unique case report of a medical student who was diagnosed with POTS after an 11-month diagnostic delay.

Case Presentation

A 29-year-old African American male with a past medical history of hypertension, presented to the emergency room after developing symptoms of lightheadedness, generalized weakness, tachycardia and palpitations in November of 2016. He also complained of persistent headaches, fatigue and transient chest pain that he assumed were related to his hypertension and hectic school schedule over the past two months. The patient has been under significant amount of stress recently due to his medical school studies, a new baby that was born prematurely and an upper respiratory illness. He had received a flu vaccine two weeks prior to becoming sick with lightheadedness and tachycardia. On exam, he appeared anxious. His initial blood pressure in a sitting position was 137/93mmHG, with a heart rate of 102 bpm. Orthostatic vital signs were not performed at the time. The EKG showed sinus tachycardia and nonspecific ST abnormality and his routine blood test and drug screen were within normal limits. The patient was discharged on lisinopril-hydrochlorothiazide 10-12.5mg daily and it was recommended that he follow-up with a cardiologist.

Background

Postural tachycardia syndrome is a heterogeneous autonomic disorder, with orthostatic intolerance and an exaggerated heart rate response to standing upright being its characteristic clinical features.[3] POTS is defined by the presence of chronic orthostatic symptoms and an increase in heart rate > 30bpm or more within the first 10 minutes of assuming an upright posture and in the absence of orthostatic hypotension.[4] Recognizing this condition promptly is important since delayed diagnosis often results in untreated symptoms and persistent functional impairment. POTS is commonly observed in Caucasian women of reproductive age, but clinicians should not exclude POTS as a diagnosis in males or non-white population that is outside of the typical demographics. The Mayo Clinic investigators reported that the disability in POTS is similar to what is seen in chronic obstructive pulmonary disease (COPD) and congestive heart failure.[10]

POTS includes a variety of potential pathophysiologic mechanisms, such as partial autonomic neuropathy, excessive venous pooling, impairment of the renin-angiotensin-aldosterone system, gravity-dependent fluid shift, diminished plasma volume or red cell mass, cardiac beta-adrenergic hypersensitivity, diminished cardiovagal baroreflex sensitivity, and enhanced baseline sympathetic activity.[5] It is suggested that the finding of abnormally enhanced sympathetic drive to the cardiovascular system is a final common pathophysiology mechanism in the majority of patients.[11]

In recent years, a number of research studies suggested that POTS may have an autoimmune basis after several antibodies were identified in patients with POTS, such as ganglionic N-type acetylcholine receptor antibodies, alpha 1 adrenergic receptor antibodies, beta 1/beta 2 adrenergic receptors antibodies and M1/M2 muscarinic receptors antibodies.[12-14] Additionally, patients with POTS have displayed a higher prevalence of positive anti-nuclear antibodies and co-morbid autoimmune disorders than the general population.[15] Among co-morbid autoimmune disorders, Hashimoto's thyroiditis was the most prevalent, followed by rheumatoid arthritis, lupus, and celiac disease.[15]

Case Presentation

The patient was restarted on his blood pressure medication, but he could no longer tolerate it and felt worse and was bedridden throughout December of 2016. He still experienced palpitations and lightheadedness, especially when getting up from bed to use the restroom or other routine activities that required standing. A follow-up with his cardiologist led to a referral for a psychiatric workup for possible anxiety disorder and was negative for any mental illness. Subsequently, his BP medication was discontinued after a near syncopal episode and palpitations in January of 2016. A subsequent visit to the ED showed that he had a supine blood pressure of 70mmHG/55mmHg with a heart rate of 55bpm and an upright blood pressure 140/80mmHG with heart rate of 95bpm. After discontinuing his blood-pressure medication, he was able to return to school, but was still limited in his day-to-day activities and complained of lightheadedness and palpitations, with a substantial decrease in their severity.

Discussion

In a healthy individual, the heart rate normally increases transiently (10-20bpm) upon standing. This occurs when transitioning from a supine to a standing position, because approximately 500mL to 1000mL of blood pools in the lower extremities and abdominal cavity.[4] Under normal circumstances, this results in an immediate increase in the sympathetic outflow (compensatory mechanism) in order to maintain adequate blood flow throughout the body.[5] A normal compensation results in a decrease in systolic blood pressure (5 to 10 mmHg), an increase in diastolic blood pressure (5 to 10 mmHg), and an increase in heart rate within the first few minutes of standing.[5] However, in POTS, this compensatory mechanism is compromised. The diverse symptoms of POTS result from global inappropriate vasoconstriction and resultant impaired vascular hemodynamics.[6]

In this case, the patient's heart rate increased more than 30bpm and he experienced a significant increase in his blood pressure when upright. Notably his symptom burden decreased once he discontinued his blood pressure medication. There are drugs known to aggravate and increase symptoms of POTS, which include angiotensin-converting enzymes inhibitors, alpha and some beta-blockers, calcium channel blockers, diuretics, monoamine oxidase inhibitors, tricyclic antidepressants and phenothiazine.[8] These drugs should be limited if possible once a POTS diagnosis is made. In this case, the patient's medication was stopped prior to his POTS diagnosis, which was a clear aggravator.

The patient was misdiagnosed with anxiety disorder and referred for psychiatric evaluation, which is a common occurrence. The symptoms of anxiety disorders often mimic the symptoms of POTS resulting in misdiagnosis with other psychiatric disorders, such as panic disorder, conversion disorder, malingering, and depression. While some of the physical symptoms of POTS mimic anxiety including abnormal sweating, palpitations, tachycardia, and dyspnea, the underlying pathophysiology is quite different. Interestingly, some selective serotonin reuptake inhibitors (SSRI's) used for treating anxiety have been found to be beneficial in some patients with POTS, most likely due to the role of serotonin in blood pressure regulation of the ANS.[8] Nevertheless, inaccurate diagnosis and treatment may lead to a lifetime of severe and disabling symptoms for a patient.

continued

Case Presentation

In this case the patient presented with months of lightheadedness that worsened with standing, physical activity and antihypertensive medication. However, he experienced other symptoms commonly observed in POTS, which included fatigue, inability to concentrate, exercise intolerance, post-prandial lightheadedness, shortness of breath, nausea, resting and postural tachycardia and transient chest pain.

Clinical Features

Symptoms experienced by POTS patients can vary from mild to disabling, which can result in difficulty performing basic daily activities, such as eating, shopping, showering and maintaining employment.[8] The majority of symptoms appear to be caused by decreased perfusion throughout the body, with the brain being the key organ affected; patients also exhibit symptoms such as dizziness, lightheadedness, muscle weakness, blurred vision, chronic headaches, fatigue, chest pain, tremulousness, nausea, heart palpitation, and rarely, syncope.[4]

Diagnosis

A key feature of POTS is the observation of an excessive increase in heart rate greater than 30 bpm or absolute heart rate of 120bpm when transitioning from a supine position to a standing position within 10 minutes, with minimal to no change in blood pressure. This is typically observed during a tilt-table test but can be tested at the bedside as well. The presence of tachycardia greater than 30 bpm alone is not sufficient to diagnosis POTS; patients must also have chronic symptoms of orthostatic intolerance for 3 - 6 months.[5]

In children and adolescents, the diagnostic criterion for POTS is different than in adults. The criteria to diagnose children <14 years of age requires a sustained heart rate increase of greater than 40 bpm or an increase to 130 bpm or greater within the first five minutes of tilt, and for children 14 to 19 years, a sustained heart rate increase of greater than 40 bpm or an increase to at least 120 bpm or greater within the first five minutes of tilt.[7]

POTS is a diagnosis of exclusion from other conditions that can cause tachycardia and lightheadedness. It is important to rule out other illnesses that can present with similar features such as cardiac arrhythmias, thyroid dysfunction, dehydration, medication side effects, autonomic neuropathies, diabetic neuropathy, anemia, connective tissue disorders, panic disorder, and generalized anxiety disorder. Above all else, the patient's history is a big key in formulating an accurate diagnosis.

Case Presentation

From February to May 2017 our patient was investigated for anxiety, anemia, thyroid disease, cardiac arrhythmia, Lyme disease, pheochromocytoma and Addison's disease. He wore a holter monitor for 30 days, which showed episodic sinus tachycardia ranging from 110-160 bpm. An electrophysiology study was done and ruled out supraventricular tachycardia and cardiac re-entry rhythm. During a routine visit in July 2017, he was referred by his family physician to an autonomic specialist for a dysautonomia workup. A tilt table test was performed which demonstrated an increase in heart rate by 30 bpm from supine to standing position, consistent with a POTS diagnosis. Despite this, his physicians questioned a POTS diagnosis due to his gender and ethnicity since POTS predominantly occurs in Caucasian young women. A second opinion was obtained with another tilt table test which was also consistent with POTS. He was advised to avoid triggers such as caffeine, prolonged standing, prolonged upright exercises, and dehydration, and was instructed to increase both fluid and salt intake and begin a trial of low dose beta blocker.

Treatment

Currently, there is no FDA-approved medication indicated for treatment of POTS, and all medications currently used are prescribed off label. Most treating physicians recommend starting with non-pharmacologic treatment methods first, which include: avoiding inactivity, dehydration, medications that worsen/aggravate symptoms, dietary changes, and aerobic, exercise which has been shown to be most effective when compared to both non-pharmacological and pharmacological treatment.[4,8] Exercise has also been shown to improve the quality of life in POTS patients. Recommended fluid intake for patients with POTS is 2-3 liters a day and salt intake of at least 3-5 grams daily.[1]

Pharmacologic treatment options include medications such as fludrocortisone, a mineralocorticoid that acts at the kidney to retain water and salt, which expands plasma volume in POTS patients[2]; low dose beta-blockers, which act by reducing the excess sympathetic response to standing[2]; Midodrine, which is an apha-1 agonist that causes vasoconstriction and increased peripheral resistance, and other medications, such as pyridostigmine, ivabradine, clonidine, modafinil and SSRI's.

In summary, POTS is a disorder of the autonomic nervous system that is commonly misdiagnosed and under-diagnosed. As POTS affects millions of people worldwide, health care professionals need to be aware of its clinical features, diagnostic criteria and various treatment options. Increased awareness, proper diagnosis and reduced diagnostic delay will ultimately result in improved patient care and reduced disability in patients affected by postural orthostatic tachycardia syndrome.

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Let's Talk About PrEP — A Powerful Tool for Sexual Health

By Cameron Waldman; Annie Rutter, MD, MS

Primary care physicians have many tools for sexual health promotion at their disposal, including sexually transmitted infection screenings, multiple contraception options, and counseling on overall safe sex practices. As of 2012, there's a new tool available—a pill that, when taken daily, can reduce sexually transmitted HIV infections up to 92%.[1] Truvada® (emtricitabine/tenofovir), otherwise known as pre-exposure prophylaxis (PrEP) or "the blue pill", may be the most significant advancement in sexual health since oral contraceptives. In the previous issue of *Family Doctor,* Lynch, et al.[2] provided an excellent description of the landscape of HIV in New York State, and discussed the implications of the use of this prevention measure in minors. The case has also been made regarding the efficacy of this strategy, as well as the safety of the medication, in the at-risk adult population.[3] Despite this, PrEP has yet to be a broadly adopted resource among primary care physicians.[4] However, the tide seems to be shifting. According to one study, 49% of PCPs surveyed had heard of PrEP in 2012, compared to 66% in 2015, with that number likely around 76% in data to be published next year.[5] And, there is also significant interest from providers to learn how to prescribe PrEP for high risk patients.[6]

Fortunately, learning about PrEP has never been more accessible. There are a number of free online resources that aim to help clinicians incorporate PrEP into their practice, including guidelines from the Centers for Disease Control and Prevention and the New York State Department of Health. Support tools are also available to help patients and providers understand counseling as well as implementation and surveillance of therapy.[7,8] Other organizations offer resources including:

- Online case-based PrEP tutorial by the Fenway Institute[9]
- Online Education training from the Clinical Education Initiative (CEI)[10]
- Hotline through University of California-San Francisco Medical Center providing guidance for clinicians looking for expert advice on prescribing[11]
- Toll-free number for medical providers to discuss PrEP management with a specialist through the New York State Department of Health, AIDS Institute and Clinical Education Initiative.[12]

The purpose of this article is to provide guidance to physicians as they implement this powerful tool into their clinical workflow. The following steps are adapted from the CDC and New York State Department of Health recommendations and are intended to make the process simple for both patients and physicians.

Step 1: Identify At-Risk Patients

PrEP is not for everyone, and is intended for targeted use in at-risk populations. Currently, the CDC guidelines discuss two modes of HIV transmission: sexual activity and intravenous drug use. Patients considered to be at "substantial risk for HIV infection" via sexual transmission are those "not in a mutually monogamous relationship with someone who recently tested HIV negative"[13] AND meet one of the following criteria:

- Gay man, bisexual man or trans-woman who has unprotected anal intercourse or has been diagnosed with an STD in the last six months
- Any patient who is in a sexual relationship with a partner who has HIV
- Any patient who "sometimes trades sex for money, drugs or housing"[14]
- Any patient with inconsistent or no condom use with partners of unknown HIV status if that partner is at substantial risk of HIV infection

Patients who are considered at substantial risk for HIV transmission due to intravenous drug use are those who have "injected illicit drugs in past 6 months and who have shared injection equipment or been in drug treatment for injection drug use in the past 6 months."[15]

For screening HIV-risk for MSM (men who have sex with men) population specifically, clinicians may find it helpful to utilize the HIV Incidence Risk Index (HIRI), which is freely available online in the CDC's PrEP Clinical Provider Supplement. The index assigns a numeric score based on a patient's answer to 6 different sexual health history questions, which include age, number of recent sex partners, and frequency of recent instances of condom-less anal sex; a score of 10 or higher may identify MSM patients who should be further evaluated for PrEP.[16]

Clinicians might also consider patients eligible for PrEP even if they don't fit firmly in the criteria listed above. For instance, it may be reasonable to extend eligibility to patients who self-identify as being at high risk for HIV infection but withhold details on their risk behaviors, and to patients who think they may participate in high-risk behavior at some point in the immediate future.[17]

continued

Step 2: Determine Clinical Eligibility

Once a patient is identified as being at risk for HIV, it is important to determine their clinical eligibility for PrEP. Only patients who are HIV negative are candidates for PrEP. This must be documented with a negative HIV test. In addition, during the initial history and examination, the patient must have no signs or symptoms of acute HIV infection.

Common Signs and Symptoms of Acute HIV Infection may include[18]:	
Fever	Pharyngitis
Myalgia	GI Symptoms (nausea, vomiting, diarrhea)
Fatigue	Rash
Night Sweats	Weight loss
	Arthralgias

Renal function testing and Hepatitis B virus serology should also be obtained. Patients with an estimated creatinine clearance less than 60 ml/min should not be prescribed PrEP.[19] A comprehensive medication reconciliation should be completed to uncover any drugs with potential nephrotoxic profiles, or any other drugs that may have adverse effects in combination with PrEP. As far as Hepatitis B virus (HBV) is concerned, if a patient is eligible for vaccination based on serology testing, they should be vaccinated prior to initiation of PrEP. If they have immunity due to prior exposure to the virus, or prior vaccination, a patient is eligible for PrEP therapy. For further clinical guidance on patients with chronic or acute HBV, please see the CDC's Clinical Practice Guidelines section on Special Clinical Considerations.[20]

In addition to the above screenings, it may also be appropriate to determine a patient's status in regard to pregnancy and any history of bone loss disorders, including osteopenia or osteoporosis. If a patient is pregnant, planning to conceive or actively breastfeeding, treatment with PrEP can continue in situations where HIV risk is still present; however it's important to note that the long-term health effects of PrEP use during pregnancy has yet to be established.[21] And since PrEP use has been associated with a small decline in bone mineral density within the first few months of treatment, clinicians should especially consider this side effect when discussing risks and benefits with histories of abnormal bone loss.[22]

It should also be noted that adolescents at risk for HIV are also eligible for PrEP. In fact, in 2017, New York Codes, Rules and Regulations were amended to allow minors to consent to PrEP without the need for parental or guardian approval.[23]

Routine care and screening for patients eligible for PrEP should not be overlooked. Many patients who are eligible should also be screened for Hepatitis C Virus. In addition, routine sexually transmitted infection screening based on current guidelines should also be offered.

Step 3: Counseling and Initiating PrEP

Once PrEP eligibility is established based on evaluation of HIV acquisition risk and appropriate clinical screenings, clinicians should engage in pre-prescription counseling with patients. PrEP's efficacy as an HIV prevention tool depends on patient adherence to a daily one-dose medication regime. Pre-prescription counseling, then, should keep in mind a broader goal of assessing and building support for patient's capacity for medication adherence. Counseling on PrEP use should include:

i) Educating patients on common side effects and what to do if side effects arise

ii) Obtaining information on a patient's knowledge base on the goals of PrEP therapy and how the medication works

iii) Discussing a patient's plan for adherence

iv) Emphasizing the need for concurrent safe sex and needle use habits

v) Discussion of a plan for future follow up visits

Patients should be made aware of possible side effects, which may peak at one month and resolve by month three after starting PrEP. These include diarrhea, headache, abdominal pain, weakness, and nausea.[24] To mitigate lack of patient adherence during this initial period when side effects may develop, providers should develop a plan with their patients on what to do should these adverse effects arise.

Understanding a patient's knowledge base regarding PrEP and how the medication works is also an important step in pre-prescription counseling. This can be used as an opportunity to identify areas for further education, and to help providers understand the reasons patients wish to use PrEP—an understanding that can aide in adherence counseling.[25] Patients should understand that obtaining maximum protection for receptive anal sex requires 7 days of continual PrEP use, as this is the time it takes to achieve maximum intracellular concentration in rectal tissue. For protection in cervico-vaginal tissues, maximum intracellular concentration takes 20 days of medication adherence.[26]

Especially for patients who have never had to take a medication every day, it is important to discuss a patient's intended strategy for adherence. The CDC suggests breaking down this conversation with patients into 4 components. First ask patients about what their usual daily schedule is like, and what time in the day might be most convenient to take a daily pill. Next, discuss possible reminder devices or strategies patients can use to ensure adherence such as mobile devices or taking the pill alongside daily activities such as during breakfast or teeth brushing. Also discuss organization strategies, including where it's best to store the pill bottle so that it doesn't get lost. And last, talk to the patient about their social and home support—is the patient comfortable disclosing to their friends and family the purpose of the medication? Does the patient have any concerns that lack of social support may be a barrier to adherence?[27]

continued

Providers should also re-emphasize that PrEP is just one-component of a comprehensive plan for HIV prevention, and stress the importance of other safe practices such as consistent condom use, safe-needle practices, and frequent HIV and STI testing. As part of this discussion, providers should begin to explain a plan for continued follow up visits and testing that should be part of patient's PrEP management.

As an initial plan for follow up, clinicians should begin with a 30-day prescription for PrEP with a subsequent follow-up appointment to assess adherence and side effects. Subsequently, 90-day prescriptions and follow up appointments may be initiated.[28] The details of clinical management during future follow visits is discussed in the following step.

Step 4: Surveillance

When prescribing PrEP, it's important to monitor patients with regularly scheduled in-person appointments. Both the CDC and NYS DOH guidelines offer recommendations on how to structure these follow-up appointments, including the frequency of continued screening and tests and ongoing counseling topics such as HIV risk reduction and safe-sex practices.

These recommendations are summarized in the table below:

PrEP Surveillance Summary Chart[29]

Monitoring	Frequency
Prevention and medication support	
Assess adherence	At every visit
Provide risk reduction counseling	
Offer condoms	
Manage side effects	
Laboratory testing	
HIV testing NYS Guidelines: Lab-based fourth (preferred) or third (alternative) generation testing (CDC Guidelines: Any testing except oral rapid testing)	• Every 3 months and • Whenever there are symptoms of acute infection (serologic screening test and HIV RNA test)
Sexually transmitted infection (STI) symptom screen and testing • NAAT (nucleic acid amplification test) to screen for gonorrhea and Chlamydia, based on exposure site • Rapid plasma reagin (RPR) or Treponemal IgG • Inspection for anogenital lesions	Symptom screen: • At every visit Testing for syphilis • Every 3 months* Testing for gonorrhea and chlamydia: • At least every 6 months, even if asymptomatic • Every 3 months for those engaging in high-risk behaviors • Whenever symptoms are reported
Hepatitis C antibody test	At least every 12 months for: • People who use drugs • MSM • People with multiple sexual partners
Serum creatinine and calculated creatinine clearance	At 3 months after initiation, then every 6 months
Urinalysis+	Every 12 months
Pregnancy testing	Every 3 months

*NYC-specific recommendation; NYS and CDC recommend the same testing frequency for syphilis as for gonorrhea and chlamydia.
+Not recommended by CDC.

Step 5: Paying for PrEP: Insurance coverage and billing

In a survey of early-adopting PrEP providers, financial coverage was the most commonly cited challenge to implementing PrEP. These providers described not only challenges in terms of costs for patients, but also time-expensive administrative burdens of assisting patients with access to payment plans and insurance navigation in efforts to pay for PrEP.[30] Without insurance, the cost of PrEP is approximately $8,000 to $14,000 per year.[31] Despite this expensive price tag, there are available resources to help providers and their patients receive financial coverage.

continued

In New York State, most private insurance programs cover PrEP prescriptions. However, each private plan may differ in terms of deductible and co-pay costs. Certain programs exist, though, to help defer additional costs such as co-pays. Gilead, the company who manufactures PrEP, assists insurance carrying-patients who are not enrolled in Medicaid or Medicare, with a co-pay coupon card that covers up to $300 per month in prescription co-payment costs. This co-pay card is available to patients regardless of income level. Gilead also has a medication assistance program which covers prescription costs available to uninsured or under-insured patients over 18 years old who have annual incomes less than 500% of the federal poverty level.

New York State Medicaid also covers PrEP prescription costs, along with costs related to PrEP medical appointments and lab tests. Prior approval is required and renewed every 3 months. New York State also provides a PrEP Assistance Program (PrEP-AP), which helps cover costs related to PrEP for New York State residents whose income is less than 435% of the federal poverty level. PrEP-AP helps cover costs related to PrEP clinical visits, lab tests, STI and HIV prevention counseling, and care services that are consistent with PrEP guidelines. PrEP-AP is available to patients of all ages, and can help supplement costs related to PrEP for patients on Medicaid or who have other insurance plans. **To inquire more about PrEP-AP, clinicians can contact 1-800-542-2437.**[32]

In May of 2017, the New York State Department of Health and the New York City Department of Health and Mental Hygiene issued a letter to clinical providers delivering PrEP services to educate them about ICD-10 codes that can be used for reimbursement of these services.[33] These codes are intended to describe the diagnoses associated with both the clinical visit as well as the required testing. While there are no codes directly related to PrEP services, these will clearly illustrate a connection between the services provided and the patient's diagnoses. It is important to note that the tests ordered during the initial visit are screening codes, and follow up testing uses "contact with" codes.

PrEP Related Codes--Initial Visit ₮		
Coding For:	**ICD-10 Code**	**Description**
Visit	Z20.6	Contact with and (suspected) exposure to HIV
	Z20.2	Contact with and (suspected) exposure to infections with a predominantly sexual mode of transmission
	Z77.21	Contact with and (suspected) exposure to potentially hazardous bodily fluids
	F19.20	Unspecified drug dependence
Initial Tests	Z01.812	Encounter for pre-procedural laboratory examination (Applicable to blood and urine tests prior to treatment or procedure)
	Z11.3	Encounter for screening for infections with a predominantly sexual mode of transmission
	Z11.4	Encounter for screening for human immunodeficiency virus
	Z11.59	Encounter for screening for other viral diseases*
PrEP Related Codes—Follow up Visits ₮		
Coding For:	**ICD-10 Code**	**Description**
Visits and Tests	Z20.6	Contact with and (suspected) exposure to HIV
	Z20.2	Contact with and (suspected) exposure to infections with a predominantly sexual mode of transmission
	Z79.899	Other long-term drug therapy
	Z20.5	Contact with and (suspected) exposure to viral hepatitis*

**If screening for hepatitis C in high-risk patients with Medicare, remember to use code Z72.89 (other problems related to lifestyle) or F19.20 (unspecified drug dependence)*

continued

Pre-exposure prophylaxis for HIV is a well-accepted strategy to prevent HIV in high risk individuals. Family physicians specialize in health promotion and disease prevention, and providing PrEP in the primary care office is appropriate and can be easily accomplished with proper education and understanding, by both patients and providers.

Quick Links for Further Information and Resources	
A Clinical Practice Guideline US Public Health Service Preexposure Prophylaxis for the Prevention of HIV Infection in the United States- 2014.	https://www.cdc.gov/hiv/pdf/prepguidelines2014.pdf
HIV Clinical Resource PrEP for HIV Prevention. New York State Department of Health AIDS Institute	https://www.hivguidelines.org/prep-for-prevention/ *PrEP Mangaement Checklist*: https://www.hivguidelines.org/prep-for-prevention/prep-to-prevent-hiv/#tab_6_0 *Pre-Prescription Patient Education Checklist:* https://www.hivguidelines.org/prep-for-prevention/prep-to-prevent-hiv/#tab_4_1
PrEP Pocket Guides New York State Department of Health AIDS Institute	https://www.hivguidelines.org/prep-for-prevention/prep-to-prevent-hiv/#tab_12
PrEP Provider FAQ New York City Department of Health and Mental Hygiene	https://www1.nyc.gov/assets/doh/downloads/pdf/csi/csi-prep-hcp-faq.pdf
PrEP FAQs New York State Department of Health AIDS Institute	https://www.health.ny.gov/diseases/aids/general/prep/docs/faqs.pdf
Need Help Paying for PrEP? Patient Payment Assistance Brochure, New York State Department of Health	https://www.health.ny.gov/publications/9001.pdf
Toll-Free Numbers	**Clinician Support** Clinical Education Initiative New York State Department of Health AIDS Institute **1-866-637-2342** **PrEP Assistance Program** **1-800-542-2437** **The CCC Pre-Exposure Prophylaxis Service** **Clinical Consultation Program** University of California, San Francisco **1-855-448-7737**

continued

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Factors Associated with Cancer Screening in Rural New York

By Rachel Criswell, BA; Wilson Sui, MD; Melissa B. Scribani, MPH, Renee Friedman; Daphne Monie, PhD; Lynae Wyckoff, MS; Nicole Krupa, BS; and Paul L. Jenkins, PhD

Introduction

Breast cancer and colorectal cancer (CRC) are among the leading causes of cancer-related deaths for women in the United States (US),[1] and CRC is among the leading causes for men.[2] Cancer screening decreases cancer mortality rates by allowing for early diagnosis and treatment.[3-5] Nevertheless, cancer screening rates in rural areas are lower than national and urban rates,[6-15] which has been attributed to rural populations' lower rates of insurance coverage,[16] increased distance to health clinics,[17,18] and decreased access to primary care physicians (PCPs) as compared to urban populations.[19] We aimed to determine rates in rural New York (NY) for breast, cervical, colorectal, and complete cancer screening and to identify factors associated with adherence to individual and complete cancer screening.

Methods

Study Design and Data Source: We used data from the Upstate Health and Wellness Study, a population-based mailed survey conducted between July 2009 and August 2010 that assessed a random sample of 27,000 households in Chenango, Delaware, Herkimer, Madison, Montgomery, Otsego, and Schoharie counties. Survey methodology is described elsewhere.[20] Briefly, one individual in each household was asked to complete the survey for all household members and return it by standard mail or online. Households were randomly sampled using a framework provided by the Genesys Corporation (Fort Washington, Pennsylvania) and included 3 successive sampling stages. The survey completion rate was 48.3%.

Participants and Study Size: Of 3578 male respondents aged 50 and older, we excluded 123 with a history of prostate cancer or CRC for a final cohort of 3455 men. Of 5604 female respondents aged 21 and older, we excluded 126 with a history of cervical, breast or colorectal cancer, resulting in a final cohort of 5478 women. Numbers of female respondents analyzed varied by screening outcome due to age criteria.

Outcome Variables: Screening guidelines for breast and cervical cancer were defined using 2002 and 2003 US Preventive Services Task Force (USPSTF) guidelines, respectively.[21-23] Based on our survey question, up-to-date CRC screening was defined as reporting a colonoscopy in the last 5 years among women and men aged 50 and above.[21] A complete screening variable for women was created based on sex and age criteria. Subjects with no current screening were considered negative. Subjects who met only some of these guidelines were classified as partially screened and were excluded from the regression analyses of complete screening.

Independent Variables: Potential predictors were identified using Andersen's model of health behavior and included race (White vs non-White), age, education (less than high school, high school graduate/GED, some college, 4-year college, or graduate degree), living situation (alone, with spouse or significant other (SO), with spouse/SO and other family, or with other family only), health insurance (none, private, government, or combined government and private), median household income based on zip code (in quartiles), access to a PCP (has PCP vs not), connectivity (cell phone, home internet access, neither, or both), body mass index (BMI), smoking status (current vs former/never smoker), and number of comorbidities (0,1,2,or≥3).[24]

Analysis: Descriptive statistics, including frequencies and proportions, were used to summarize demographic characteristics and the prevalence of breast, cervical, colorectal, and complete cancer screening among the respective appropriate groups.

Univariate logistic regression was used to identify associations between subject characteristics and odds of screening. Factors found by univariate analyses to be significantly related to screening ($p < .05$) were included in multivariable logistic regression models. Separate multivariable logistic regression models were constructed to predict breast, cervical, colorectal, and complete cancer screening among appropriate sex and age groups. Estimates are presented using odds ratios (OR) with 95% confidence intervals (CI). Statistical analyses were completed using SAS 9.3 (Cary, NC). Because responders to the first sampling stage were disproportionately older and female, analyses were weighted for sampling stage and county population.

continued

Table 1. Respondent characteristics

	Females		Males	
	N	*Weighted %*	*N*	*Weighted %*
Total N	5478	--	3455	--
Age (years), Mean (SD)	58.1 (16.7)	--	66.7 (10.1)	--
Race				
White	5019	96.0	3155	95.8
Non-White	218	4.0	152	4.2
Educational attainment				
< High school	167	3.5	221	7.2
High school/GED	2318	48.6	1511	48.7
Some college	937	19.7	497	16.2
4-yr college	656	13.6	376	12.0
Graduate degree +	697	14.7	490	15.8
Living situation				
Lives alone	1164	19.6	497	15.9
Lives with spouse/SO	2404	42.4	2186	64.9
Lives with spouse/SO and extended family	1417	29.0	414	14.2
Lives with extended family	460	9.1	158	5.0
Health insurance				
No insurance	358	6.9	178	5.2
Private insurance	2437	47.3	1204	37.1
Government insurance	1040	18.3	759	22.3
Private + govt insurance	1620	27.5	1301	35.4
Median household income				
Q1	1317	25.8	814	25.2
Q2	1312	26.8	836	27.2
Q3	1280	22.9	802	22.3
Q4	1309	24.5	838	25.3
Access to health care provider				
Does not have PCP	696	12.9	436	12.4
Has PCP	4748	87.1	2994	87.6
Connectivity				
No cell or web	739	12.8	440	12.3
Web only	442	7.6	291	7.9
Cell only	897	16.3	566	16.6
Both cell and web	3353	63.3	2133	63.2
BMI, Mean (SD)	29.2 (7.0)	--	30.20 (5.4)	--
Normal weight	1343	30.3	421	13.8
Overweight	1551	32.2	1308	41.5
Obese	1844	37.5	1367	44.8
Smoking status				
Former/never smoker	4672	86.6	2964	86.5
Current smoker	700	13.4	430	13.5
Comorbidities				
0	3038	57.2	1460	42.4
1	1625	28.8	1139	33.2
2	560	10.0	590	17.0
≥ 3	255	4.0	266	7.5

continued

Table 2. Screening rates, N (weighted %)

Screening type	Ages Included	Screened	Unscreened	
Breast	40+	3290 (69.1)	1378 (30.9)	
Cervical	21-65	2696 (77.8)	738 (22.2)	
Colorectal - Women	50+	2071 (54.6)	1650 (45.4)	
Colorectal - Men	50+	1935 (58.2)	1354 (41.8)	
		Screened	**Unscreened**	**Partially screened**
Completely Screened - Women	21+	2681 (50.3)	846 (16.8)	1824 (32.9)

Results

Study Population: Descriptive analysis of the study population is in Table 1.

Screening Rates: Screening rates among our study population can be found in Table 2. Briefly, 69.1% of women were up-to-date on mammography, 77.8% were up-to-date on Pap smears, 54.6% were up-to-date on colonoscopy, and 50.3% were completely up-to-date on screening. Of men, 58.2% were up-to-date on colonoscopy.

Predictors of Cancer Screening: Results of the univariate analyses can be found in Tables 3-4. Results of the multivariable analysis can be found in Tables 5-6.

Discussion

Consistent with previous findings showing lower cancer screening rates among rural populations,[6-15] individual cancer screening rates among our study population were lower than national and state averages.[25,26] The screening rates among our study population were lower than rates in New York City, which were 67.4% for CRC screening, 79.6% for mammography, and 82.6% for cervical cancer screening in 2010 according to the Center for Disease Control's Behavior Risk Factor Surveillance System.

The rates identified in our study varied from other rural cancer screening rates with little discernable pattern.[12,16,19,24,27-30] This variation highlights the demographic and health care access diversity of rural populations in different parts of the US and indicates the importance of gathering regional data and creating locally-relevant interventions to improve screening rates rather than a one-size-fits-all rural approach.

Novel in our study was the finding of significant associations between increased connectivity and cervical, breast, and complete screening for women. One previous study included connectivity in an index for socioeconomic status,[31] which has been associated with increased screening rates[9,10,19] and may in part explain our findings. However, we found only one significant association between income and screening on multivariable analysis, while the significant associations between connectivity and screening persisted in several models. A more likely explanation for our findings is that internet and cell phone use increases a person's access to up-to-date health information for informed decisions about screening and venues for direct communications from health care organizations. Our findings suggest that cell- or web-based advertising, reminders, or decision-making tools to promote screening may be an effective way to continue to boost screening rates among the well-connected and also highlight the need for interventions aimed at those without technology access such as home visits, in-person community outreach, or mailed materials.

Our findings linking living situation to screening contradict previous research, which has shown that married individuals have a higher likelihood of undergoing breast, cervical and CRC screening.[32,33] We found that living with family and a spouse/SO decreased a woman's odds of breast and CRC screening by almost half, and living with family decreased a man's odds of being screened for CRC by half as compared to living alone. This could indicate that the pressure of caring for children, parents, or other relatives can overshadow an individual's attention to their own preventive care, particularly for more time-intensive exams such as mammography and colonoscopy. Interventions to increase screening rates should address the needs of these individuals, including approaches such as home collection of samples, simultaneous screenings, and mobile clinics to cut down on time away from home responsibilities. Family physicians may be particularly well placed to address this challenge, as they can encourage these individuals to attend to their own health care maintenance while present for the appointments of their family members.

The remainder of our findings suggest numerous clinical and advocacy opportunities for family physicians to boost cancer screening rates among their patients. In a clinical setting, family physicians may want to focus attention on ensuring that their older patients, patients who smoke, patients with less education, and patients with multiple comorbidities are aware of and have access to all necessary screening. We found that increasing age was associated with decreased odds of breast and complete cancer screening among women, the latter of which may be explained by the increasing number of screenings for women as they age, presumably making it more difficult to be completely screened. As is established,[31,34] smoking decreased odds of all screening except cervical cancer screening. This finding is particularly concerning, as smoking increases the risk for multiple cancers. Previous studies have indicated a link between education and cancer screening, which was confirmed in our study and may indicate that efforts to target the under- and never-screened should employ literature for audiences with lower levels of education, such as HS or below.[9]

continued

Table 3. Univariate analysis of factors associated with adherence to female cancer screening

Characteristic	Cancer screening							
	Breast		Cervical		Colorectal		Complete	
	Unadjusted OR (95% CI)	*P*	Unadjusted OR (95% CI)	*P*	Unadjusted OR (95% CI)	*P*	Unadjusted OR (95% CI)	*P*
Age (years)	.987 (.980 – .994)*	.0002	.999 (.990 – 1.008)	.8553	.997 (.988 – 1.006)	.5158	.984 (.978 - .990)*	<.0001
Race								
White	1.349 (.883 – 2.061)	.1661	1.054 (.582 – 1.908)	.8618	1.179 (.728 – 1.910)	.5023	1.472 (.865 – 2.504)	.1542
Non-White	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Educational attainment								
< High school	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
High school/GED	1.851 (1.163 – 2.946)*	.0094	1.881 (.913 – 3.876)	.0869	2.108 (1.219 – 3.645)*	.0076	3.317 (1.820 – 6.045)*	<.0001
Some college	2.726 (1.654 – 4.494)*	<.0001	3.890 (1.821 – 8.312)*	.0005	2.305 (1.294 – 4.108)*	.0046	6.381 (3.349 – 12.157)*	<.0001
4-yr college	2.709 (1.602 – 4.581)*	.0002	2.954 (1.370 – 6.373)*	.0058	2.747 (1.502 – 5.023)*	.0010	5.670 (2.935 – 10.953)*	<.0001
Graduate degree +	3.917 (2.306 – 6.656)*	<.0001	3.759 (1.727 – 8.183)*	.0009	3.149 (1.742 – 5.693)*	.0001	7.919 (4.034 – 15.546)*	<.0001
Living situation								
Lives alone	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Lives with spouse/SO	1.351 (1.082 – 1.688)*	.0080	1.420 (.987 – 2.043)	.0586	1.158 (.926 – 1.448)	.1994	1.622 (1.217 – 2.163)*	.0010
Lives with spouse/SO and extended family	1.120 (.865 – 1.450)	.3909	1.388 (.968 – 1.991)	.0745	.694 (.510 - .944)*	.0198	1.596 (1.189 – 2.141)*	.0019
Lives with extended family	.831 (.592 – 1.168)	.2874	.928 (.595 – 1.448)	.7421	.813 (.550 – 1.202)	.2998	1.031 (.696 – 1.527)	.8786
Health insurance								
No insurance	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Private insurance	3.343 (2.331 – 4.793)*	<.0001	2.640 (1.895 – 3.680)*		2.773 (1.739 – 4.421)*	<.0001	4.535 (3.083 – 6.671)*	<.0001
Government insurance	1.671 (1.138 – 2.453)*	.0087	1.261 (.838 – 1.899)	.2662	2.114 (1.294 – 3.452)*	.0028	1.742 (1.150 – 2.639)*	.0088
Private + govt insurance	1.919 (1.333 – 2.762)*	.0004	1.212 (.777 – 1.890)	.3963	2.819 (1.763 – 4.508)*	<.0001	1.803 (1.220 – 2.665)*	.0031
Median household income								
Q1	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Q2	1.173 (.921 – 1.494)	.1969	.825 (.610 – 1.116)	.2121	.922 (.713 – 1.192)	.5337	.950 (.711 – 1.270)	.7302
Q3	1.258 (.974 – 1.625)	.0792	1.183 (.855 – 1.637)	.3091	1.277 (.971 – 1.679)	.0803	1.252 (.920 – 1.705)	.1529
Q4	1.375 (1.070 – 1.768)*	.0128	1.193 (.863 – 1.648)	.2849	1.081 (.829 – 1.410)	.5634	1.228 (.904 – 1.668)	.1888
Access to health care provider								
Does not have PCP	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Has PCP	3.218 (2.498 – 4.146)*	<.0001	3.507 (2.672 – 4.603)*		2.679 (1.961 – 3.660)*	<.0001	4.235 (3.236 – 5.542)*	<.0001
Connectivity								
No cell or web	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Web only	1.200 (.832 – 1.730)	.3293	1.787 (1.039 – 3.075)*	.0359	1.183 (.796 – 1.760)	.4054	1.695 (1.070 – 2.684)*	.0244
Cell only	1.273 (.944 – 1.716)	.1131	2.437 (1.506 – 3.943)*	.0003	1.348 (.979 – 1.857)	.0674	2.014 (1.377 – 2.946)*	.0003
Both cell and web	1.999 (1.564 – 2.556)*	<.0001	3.013 (2.011 – 4.515)*		1.595 (1.228 – 2.070)*	.0005	3.366 (2.455 – 4.614)*	<.0001
BMI	1.003 (.989 – 1.017)	.6618	.979 (.964 - .995)*	.0082	1.011 (.996 – 1.026)	.1647	1.003 (.986 – 1.019)	.7616
Normal weight	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Overweight	1.176 (.926 – 1.494)	.1845	1.085 (.793 – 1.486)	.6103	1.153 (.894 – 1.489)	.2730	1.158 (.869 – 1.544)	.3166
Obese	1.123 (.892 – 1.415)	.3239	.724 (.544 - .963)*	.0266	1.045 (.0817 – 1.336)	.7276	1.029 (.783 – 1.353)	.8357
Smoking status								
Former/never smoker	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Current smoker	.552 (.431 - .706)*	<.0001	.644 (.489 - .847)*	.0017	.465 (.345 - .628)*	<.0001	.542 (.405 - .726)*	<.0001
Comorbidities								
0	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
1	1.030 (.847 – 1.254)	.7644	.918 (.706 – 1.194)	.5246	1.227 (1.000 – 1.507)	.0502	.972 (.757 – 1.248)	.8252
2	.763 (.580 – 1.003)	.0523	.808 (.515 – 1.268)	.3532	1.134 (.852 – 1.508	.3889	.717 (.500 – 1.027)	.0696
≥ 3	.727 (.488 – 1.083)	.1172	.526 (.250 – 1.106)	.0904	1.046 (.695 – 1.575)	.8286	.552 (.325 - .938)*	.0281

*Significant associations are denoted by **

continued

Table 4. Univariate analysis of factors associated with adherence to male colorectal cancer screening

Characteristic	Unadjusted OR (95% CI)	*P*
Age (years)	1.005 (.995 – 1.015)	.3070
Race		
White	1.038 (.632 – 1.703)	.8840
Non-White	Ref.	Ref.
Educational attainment		
< High school	Ref.	Ref.
High school/GED	1.393 (.921 – 2.106)	.1162
Some college	1.888 (1.190 – 2.998)*	.0070
4-yr college	2.096 (1.286 – 3.418)*	.0030
Graduate degree +	2.732 (1.701 – 4.388)*	<.0001
Living situation		
Lives alone	Ref.	Ref.
Lives with spouse/SO	1.487 (1.126 – 1.963)	.0552
Lives with spouse/SO and extended family	1.344 (.937 – 1.929)	.1084
Lives with extended family	.607 (.359 – 1.028)	.0633
Health insurance		
No insurance	Ref.	Ref.
Private insurance	2.164 (1.362 – 3.438)*	.0011
Government insurance	1.771 (1.094 – 2.865)*	.0199
Private + govt insurance	2.423 (1.521 – 3.862)*	.0002
Median household income		
Q1	Ref.	Ref.
Q2	1.005 (.764 – 1.322)	.9726
Q3	1.011 (.757 – 1.349)	.9412
Q4	1.194 (.901 – 1.584)	.2173
Access to health care provider		
Does not have PCP	Ref.	Ref.
Has PCP	2.643 (1.959 – 3.565)*	<.0001
Connectivity		
No cell or web	Ref.	Ref.
Web only	1.043 (.664 – 1.637)	.8564
Cell only	1.421 (.979 – 2.063)	.0643
Both cell and web	2.146 (1.572 – 2.931)*	<.0001
BMI	1.026 (1.006 – 1.046)*	.0113
Normal weight	Ref.	Ref.
Overweight	1.369 (.998 – 1.878)	.0512
Obese	1.709 (1.247 – 2.341)*	.0008
Smoking status		
Former/never smoker	Ref.	Ref.
Current smoker	.518 (.389 - .689)*	<.0001
Comorbidities		
0	Ref.	Ref.
1	1.537 (1.226 – 1.927)*	.0002
2	1.473 (1.109 – 1.956)*	.0075
≥ 3	1.045 (0.719 – 1.519)	.8174

*Significant associations are denoted by **

For women, we found that increased odds of being completely screened was seen with 1 comorbidity as compared to none. Men with 1-2 comorbidities had higher odds of being screened for CRC. No significant association was seen between having 3 or more comorbidities and any screening. Comorbidities can increase an individual's contact with the health system, offering more opportunities for physicians to encourage screening.[35-38] However, certain or multiple comorbidities may make screening less relevant— if the patient is unable to complete cancer treatment due to morbidity or life span[39-41]— or more dangerous, especially for invasive procedures like colonoscopy.[42] Our data reflect this balance.

From an advocacy standpoint, our findings underscore the importance of expanded insurance coverage and primary care access in ensuring up-to-date preventive care. As is established,[10,15,19,43-45] we found that having any health insurance was associated with increased breast, colorectal, and complete female screening as compared to not having insurance. Further, having a PCP increased the likelihood of any cancer screening. This finding is consistent with previous studies,[9,12,19,31,45-47] and is particularly relevant in our study region, where 3 whole and 4 partial counties of the 7 were classified as Health Professional Shortage Areas in 2010, and 1 whole and 6 partial counties continued to be classified as such in 2016.[48] Further supporting this finding was the fact that complete screening rates were lower than individual ones. Individual screenings may be performed or prescribed by specialists, but a PCP can perform or prescribe all preventive health screenings, and so increasing access to PCPs may boost complete cancer screening rates.

Predictors of complete screening tended to be the same as predictors of individual screenings on multivariable analysis with one exception. For women, comorbidities did not increase odds of any single cancer screening on multivariable analysis, but having 1 comorbidity increased odds of being completely screened. While all 3 women's cancer screenings are within the scope of practice of PCPs, cervical and breast cancer screening can be performed or prescribed by gynecologists, and in fact, some women only see a gynecologist regularly rather than a PCP.[49] These women may not be receiving CRC screening because they do not see a PCP regularly. Women who have 1 comorbidity may be more likely to regularly visit a PCP, who can coordinate all 3 screenings.

Our study had some limitations. First, the study relies on self-reported service use, which has been shown to be over-reported.[50] Second, our study defined positive adherence to CRC screening as use of colonoscopy, while fecal occult blood testing (FOBT) or sigmoidoscopy are also included under USPSTF guidelines.[21] Respondents who had FOBT or sigmoidoscopy but not colonoscopy may have been misclassified as not adherent to screening. Studies have indicated that FOBT and sigmoidoscopy are not widely used among rural residents,[7,12] which may limit the effects of this misclassification.

continued

Table 5. Multivariable analysis of factors associated with adherence to female cancer screening

Characteristic	Cancer screening							
	Breast		Cervical		Colorectal		Complete	
	Adjusted OR (95% CI)	*P*	Adjusted OR (95% CI)	*P*	Adjusted OR (95% CI)	*P*	Adjusted OR (95% CI)	*P*
Age (years)	.986 (.975 - .997)*	.0145	--	--	--	--	.969 (.958 - .980)*	<.0001
Race								
White	--	--	--	--	--	--	--	--
Non-White	--	--	--	--	--	--	--	--
Educational attainment								
< High school	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
High school/GED	1.461 (.884 – 2.414)	.1389	.726 (.261 – 2.025)	.5412	2.113 (1.177 – 3.794)*	.0122	2.226 (1.129 – 4.388)*	.0209
Some college	1.617 (.932 – 2.807)	.0874	1.210 (.418 – 3.501)	.7247	2.071 (1.108 – 3.871)*	.0226	2.996 (1.432 – 6.267)*	.0036
4-yr college	1.629 (.906 – 2.929)	.1003	.958 (.326 – 2.817)	.9378	2.340 (1.218 – 4.494)*	.0107	2.255 (1.047 – 4.856)*	.0377
Graduate degree +	2.197 (1.222 – 3.949)*	.0086	1.114 (.374 – 3.316)	.8457	2.585 (1.359 – 4.918)*	.0038	3.471 (1.585 – 7.599)*	.0019
Living situation, N								
Lives alone	Ref.	Ref.	--	--	Ref.	Ref.	Ref.	Ref.
Lives with spouse/SO	1.031 (.774 – 1.374)	.8326	--	--	.950 (.720 – 1.253)	.7155	1.106 (.756 – 1.620)	.6036
Lives with spouse/SO and extended family	.585 (.407 - .841)*	.0038	--	--	.547 (.376 - .796)*	.0016	.661 (.419 – 1.044)	.0756
Lives with extended family	.671 (.440 – 1.020)	.0619	--	--	.842 (.537 – 1.322)	.734	.740 (.433 – 1.243)	.2503
Health insurance								
No insurance	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Private insurance	2.236 (1.465 – 3.415)*	.0002	1.924 (1.250 – 2.962)*	.0029	2.235 (1.335 – 3.742)*	.0022	2.757 (1.697 – 4.477)*	<.0001
Government insurance	1.685 (1.057 – 2.686)*	.0282	1.364 (.787 – 2.363)	.2683	1.929 (1.114 – 3.337)*	.0189	1.942 (1.135 – 3.322)*	.0154
Private + govt insurance	1.692 (1.069 – 2.679)*	.0248	1.209 (.679 – 2.151)	.5189	2.311 (1.373 – 3.889)*	.0016	1.993 (1.166 – 3.409)*	.0117
Median household income								
Q1	Ref.	Ref.	--	--	--	--	Ref.	Ref.
Q2	1.294 (.982 – 1.705)	.0671	--	--	--	--	.989 (.694 – 1.411)	.9533
Q3	1.311 (.979 – 1.756)	.0695	--	--	--	--	1.150 (.793 – 1.667)	.4606
Q4	1.371 (1.030 – 1.826)*	.0306	--	--	--	--	1.191 (.820 – 1-729)	.3600
Access to health care provider								
Does not have PCP	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Has PCP	2.922 (2.158 – 3.956)*		3.042 (2.145 – 4.313)*	<.0001	2.269 (1.602 – 3.215)*	<.0001	4.131 (2.940 – 5.805)*	<.0001
Connectivity								
No cell or web	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Web only	.855 (.549 – 1.330)	.4871	1.166 (.590 – 2.306)	.6579	1.059 (.668 – 1.679)	.8075	.830 (.468 – 1.470)	.5226
Cell only	.971 (.679 – 1.391)	.8742	3.388 (1.778 – 6.458)*	.0002	1.245 (.859 – 1.804)	.2473	1.285 (.801 – 2.061)	.2991
Both cell and web	1.313 (.937 – 1.839)	.1137	2.036 (1.202 – 3.447)*	.0082	1.447 (1.033 – 2.026)*	.0315	1.556 (1.004 – 2.412)*	.0447
BMI	--	--	--	--	--	--	--	--
Normal weight	--	--	Ref.	Ref.	--	--	--	--
Overweight	--	--	1.076 (.754 – 1.537)	.6853	--	--	--	--
Obese	--	--	.829 (.591 – 1.162)	.2771	--	--	--	--
Smoking status								
Former/never smoker	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Current smoker	.637 (.472 - .858)*	.0031	.860 (.595 – 1.244)	.4238	.503 (.361 - .700)*	<.0001	.482 (.331 - .702)*	.0001
Comorbidities								
0	--	--	--	--	--	--	Ref.	Ref.
1	--	--	--	--	--	--	1.441 (1.031 – 2.015)*	.0327
2	--	--	--	--	--	--	1.246 (.768 – 2.021)	.3740
≥ 3	--	--	--	--	--	--	1.180 (.575 – 2.421)	.6510

*Significant associations are denoted by **

continued

Table 6. Multivariable analysis of factors associated with adherence to male colorectal cancer screening

Characteristic	Adjusted OR (95% CI)	*P*
Educational attainment		
< High school	Ref.	Ref.
High school/GED	1.187 (.725 – 1.943)	.4958
Some college	1.596 (.916 – 2.781)	.0992
4-yr college	1.807 (1.004 – 3.252)*	.0484
Graduate degree +	2.048 (1.157 – 3.625)*	.0138
Living situation		
Lives alone	Ref.	Ref.
Lives with spouse/SO	1.131 (.805 – 1.589)	.4782
Lives with spouse/SO and extended family	1.044 (.671 – 1.624)	.8493
Lives with extended family	.450 (.237 - .852)*	.0143
Health insurance		
No insurance	Ref.	Ref.
Private insurance	1.651 (.927 – 2.938)	.0885
Government insurance	1.539 (.839 – 2.822)	.1638
Private + govt insurance	1.803 (1.005 – 3.235)*	.0483
Access to health care provider		
Does not have PCP	Ref.	Ref.
Has PCP	2.639 (1.789 – 3.899)*	<.0001
Connectivity		
No cell or web	Ref.	Ref.
Web only	.672 (.386 – 1.171)	.1609
Cell only	1.332 (.831 – 2.135)	.2334
Both cell and web	1.456 (.958 – 2.214)	.0785
BMI	--	--
Normal weight	Ref.	Ref.
Overweight	1.342 (.933 – 1.931)	.1133
Obese	1.669 (1.153 – 2.415)*	.0066
Smoking status		
Former/never smoker	Ref.	Ref.
Current smoker	.644 (.449 - .924)*	.0169
Comorbidities		
0	Ref.	Ref.
1	1.666 (1.252 – 2.217)*	.0005
2	1.611 (1.120 – 2.317)*	.0101
≥ 3	1.116 (.691 – 1.803)	.6544

*Significant associations are denoted by **

Our survey asked about colonoscopy in the last 5 years, while USPSTF guidelines recommend colonoscopy once every 10 years.[51] We may have misclassified respondents who had a colonoscopy in between 5 and 10 years prior to the survey. Fan et al, who used a similar definition in examining urban and rural differences in CRC screening, found in a sensitivity analysis that using a 10-year time span for positive screening increased the significance of their finding that rural residents were less likely to be up-to-date on CRC screening than urban residents.[7] Therefore, we may expect even more disparate screening rates compared to urban populations if a 10-year time frame had been used.

We may have also underestimated adherence to cervical cancer screening, as we did not collect data on the prevalence of hysterectomy among respondents. The USPSTF recommends that women who have had a total hysterectomy, defined as removal of the uterus and cervix, no longer need cervical cancer screening, and these women in our population may have been misclassified as not having been screened.[52,53]

Conclusions

Although the majority of individuals in our rural NY population were completely screened, individual cancer screening rates were lower than national and state rates and lower than rates in New York City. Predictors of complete screening were the same as predictors of individual screening, with the exception of comorbidities for women. Increased connectivity was associated with increased odds of screening and living with family was associated with decreased odds of screening as compared to living alone or with just a spouse. Interventions by family physicians to increase screening rates should focus on individuals with little education, no connectivity, no insurance or PCP, and those living with extended family.

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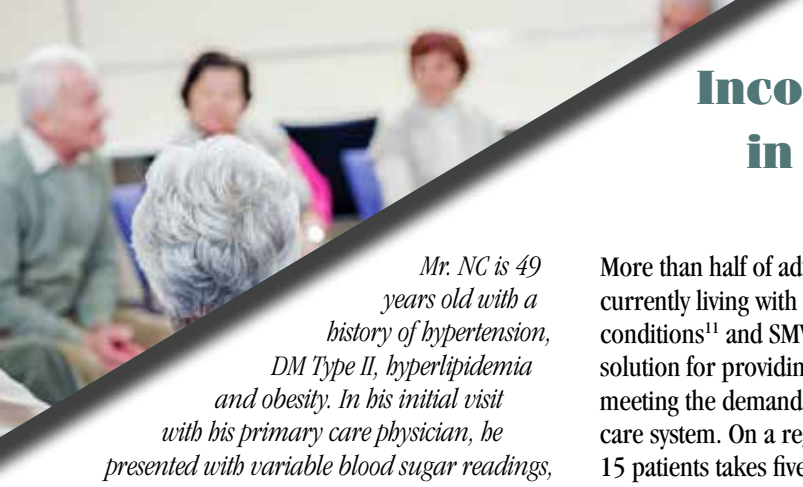

Incorporating Shared Medical Visits in an Evolving Health Care System

By Stephanie Ortiz, DO

Mr. NC is 49 years old with a history of hypertension, DM Type II, hyperlipidemia and obesity. In his initial visit with his primary care physician, he presented with variable blood sugar readings, inappropriately prescribed medications and a general feeling of hopelessness and anxiety. At the time of presentation his HbA1c was a 12.6. Mr. NC began a regimented program that included both regular office visits and shared medical visits during which his medical conditions began to stabilize. His attitude and demeanor greatly improved after six months, his A1c steadily dropped to a 6.4 in less than a year, and above all he felt he was in control of his health. When asked about what contributed to his recent changes, Mr. NC stated that the shared medical visits allowed him to express his emotions in a group setting and helped improve his anxiety. In addition he felt more comfortable managing his diabetes at home. This is a typical success story of a patient that attended my group visits.

Shared Medical Visits (SMVs) is an innovative approach to bringing together patients with common needs to provide care, education and support in a group setting with one or more healthcare providers. The goals of all SMVs are to 1) provide access to patients with multiple needs; 2) provide education and counseling on their medical conditions; 3) improve patient comfort level in managing their care at home; and 4) promote general lifestyle and behavioral changes to help improve consistency in their medical care and treatments.[1]

Patient-centered care and value-based payments have become the primary goals of the new health care model. Health care systems are gearing towards a "quality-care" model where providing adequate services and access, patient satisfaction and striving for disease control and prevention are the key factors for reimbursement. Additionally, there has been a recent shift from fee-for-service to a fee-for-outcome. This can be challenging for all health care providers given the demands of managing multiple complex chronic diseases, time constraints, high patient volume and limited resources.

More than half of adult Americans are currently living with one or more chronic conditions[11] and SMVs can be a hallmark solution for providing quality care while meeting the demands of our evolving health care system. On a regular workday, seeing 15 patients takes five hours, while a group visit with 15 patients lasts 90 minutes. In our experience, appropriately structured SMVs decrease the office visit time by 70%. Moreover, patients benefit from decreased waiting times, social learning from peers who have similar medical conditions, and they receive more complete medical visits with a clinician who can answer their questions and concerns in a structured environment.

How to Incorporate Shared Medical Visits into a Group Practice

There has been proven benefit of managing diabetes in the SMV setting. A systematic review of shared medical appointments for chronic medical conditions shows that group medical visits for patients with diabetes were found to be effective in reducing HbA1c.[3] SMVs have shown to increase access to care and patients have appeared more satisfied with their care relative to patients receiving standard care.[9]

I work in a multi-specialty group in Jackson Heights, NY which sits in the heart of an ethnically and socially diverse borough. It draws a daily census of over 200 patients with specialists and primary care providers treating a multitude of chronic conditions. One of the most common conditions treated and diagnosed on a daily basis is diabetes mellitus type II along with its underlying co-morbidities. Nearly 650,000 adult New Yorkers reported having diabetes in 2011.[12] Specifically, the borough of Queens, NY as of 2009, has a diabetes prevalence of 11%, which is higher than the national diabetes average.[3]

Shared medical visits were initially created at our center in 2015 and were developed as a drop in-group medical appointment (DIGMA) format. In DIGMAs, patients are pre-scheduled or drop-in and there is no requirement for patients to follow up at the next scheduled visit. The objectives of these visits are improving general health, well-being and addressing any complaints or concerns at the time of the visit. The first visits were successful, however after careful re-evaluation of the clinic's needs and gaps in care, a more specific SMV was created with the goal of improving health outcomes for the pre-diabetic and diabetic patient population.

Program directors established a twelve-month bilingual (Spanish and English) curriculum for the shared medical visit model in May 2016. These SMVs followed standards from the Cooperative Health Care Clinic Model (CHCC), where patients are scheduled in variable visit time intervals and focus on a homogenous problem or diagnosis, usually meeting for 90-120 minutes.[4] In contrast, DIGMAs are shorter and may include patients with different diagnoses.

Team Based Approach: Staffing

Our SMV team is comprised of a physician team leader, a certified diabetes educator (CDE), a social worker, a patient care coordinator and one to two medical assistants. It is important to collaborate with all team members prior to the group visit as everyone plays a role in the visit:

a) The physician team leader leads the visits, offers the introduction and can serve as a moderator for the segments. The team leader also ensures that every patient is examined and that any individual needs are addressed.

b) The CDE and social worker facilitate the nutrition and behavioral health segments.

c) Support staff (typically a medical assistant and a patient care coordinator) organize the space where patients will be seen, coordinates patient intake, takes vitals and facilitates pre-visit screenings (PVS).

A PVS evaluates if there are any gaps in care for the patient, for instance, an annual ophthalmology screening. The care coordinator in our center also leads an exercise/meditation portion at the end of the visit which motivates patients to make lifestyle changes.

While our SMVs are typically led by a physician, they can also be led by a mid- level provider such as a nurse practitioner. It is also encouraged, to invite guest speakers as

continued

presenters to increase the quality of the visit and provide more resources for the patients. Examples include pharmacists, psychologists, podiatrists and cardiologists.

Table 1. Shared Medical Visit Staffing[1]

Medical Clinician	Behavioral Health Care Providers	Support Staff	Guest Speakers
Physician (MD, or DO) Nurse Practitioner	Internist or Family Physician, Psychiatrist, Social Worker, Therapist, Clinical Diabetes Educator, Registered Dietician	Medical Assistant, Nurse (RN, LPN) Patient Care Coordinator, Administrative Assistant	Pharmacist, Psychologist, Podiatrist, Cardiologist, Local Community Health Market Speaker

Recruiting Patients

Our inclusion criteria for patients for our SMV includes:

1) 18+ years old with a diagnosis of pre diabetes or diabetes mellitus type I or II

2) An A1c > 5.7;

3) Patients who were already established at our center

Medical insurance criteria included any Medicare/Medicaid insurance. Certain private insurances required a higher deductible and facility fee, which limited these patients in attending the visits. Visits were promoted by fliers, posters and by referral from primary care doctors/specialists in our clinic. Patients would either show a paper referral to the front desk staff who would then schedule the patient for the SMV, or a patient would inquire at the front desk regarding the shared visits after seeing fliers or posters. Insurance acceptance was confirmed prior to booking the visit. Inclusion criteria for a SMV will vary depending on the specific condition that is being targeted. Again, for a DIGMA, the inclusion criteria for patients can be loose and not as specific.

Structure of Visit

Our clinic holds monthly sessions for six-months and encourages patients to attend at least 50% of the sessions to achieve the most benefit. To incentivize participation we have small prizes at the end of each session and a certificate of attendance at the end of each of the six months. We have successfully held 12 months of SMVs. Frequency of group visits depends on the needs of the practice and the goals of the SMV, though group visits scheduled too frequently tend to have a higher drop-out rate.[5] Conducting group visits every four to six weeks is recommended, with appointment invitations and reminders by administrative staff to be done prior to the visit for adequate enrollment.

Our clinic holds SMVs in a waiting area space that is not used on weekends. A space large enough for 10 to 15 patients is best and preferably one that has access to a computer or projector to help present topics more easily. It is important that the space is private to assure confidentiality, and it's possible to host a SMV outside of your office at any local community space as long as it is covered by your medical malpractice insurance.[1]

Every patient is registered for an office group visit and then signs a form acknowledging that they will be sharing their patient health information with others in the group. This consent form is scanned into their electronic medical record or kept in their paper chart. A sample consent form can be found through the AAFP.[10] Vital signs are taken by a medical assistant and the physician then examines the patient either before or during the SMV. If there is an acute complaint that needs to be addressed, the patient is pulled aside during or after the SMV to be more thoroughly evaluated by the physician. At each visit in our center, every patient receives a personalized agenda with their vital signs, their most recent HbA1c, a "goal setting sheet", a journal and educational handouts that are presented during the visit. The session is divided into five segments with an introduction that includes an overview of the SMV, expectations, rules for the group, objectives for the visit and a brief discussion of how patients are progressing with their goals. Segments on diabetes education, nutrition, mental health and exercise/meditation follow.

Despite having a set curriculum, it is important for the facilitator to understand that the dynamic of a group visit can change depending on the questions and needs of the patients. In many instances, the patient groups will naturally chose a specific topic or concern they have; or a specific discussion may take longer than expected to review. Having a set curriculum encourages a flexible, yet organized flow of events. Things often do not go as planned, but even so, the group will still be successful. Research shows that by leaving the choice of discussion topic up to the patients, the group participants form closer bonds and develop a greater sense of self confidence that facilitates changed behavior.[1]

Billing for a Shared Medical Visit

Beyond increasing the quality of care in a practice, it is important to bill appropriately in order to maintain a financially productive service. A medically necessary face-to-face encounter is required in order to code for a group medical visit. This means that every patient must be seen and examined individually by a health care provider in order to bill for an individual visit. As per the AAFP and ACP there is no nationally accepted standard and no special coding for standard group visits. For Medicare, there is no official payment or public rule that has been published. However, the Center for Medicare and Medicaid Services did submit an official response to the AAFP upon inquiring on billing and coding for SMVs. The response states "...under existing CPT codes and Medicare rules, a physician could furnish a medically necessary face-to-face E/M visit (CPT code 99213 or similar code depending on level of complexity) to a patient that is observed by other patients. From a payment perspective, there is no prohibition on group members observing while a physician provides a service to another beneficiary." The letter went on to read that any activities of the group (including group counseling activities) should not impact the level of code reported for the individual patient.[10] Therefore a shared medical visit can be

Table 2. Sample Topics for a Diabetes/Pre Diabetes SMV

What is HbA1c?	Diabetic Foot Checks	Managing Stress
Signs/Symptoms of Hypo and Hyperglycemia	How to Read A Food Label	Building Happiness
Carbohydrate Counting	Diabetic Smart Snacks	Finding an Exercise Routine You Enjoy

continued

billed the same as an individual visit based on the level of care they have received and documented in the chart.

This being said, out of the 5 E&M codes that describe different complexities of care, a 99213 is usually the most appropriate way to bill for a shared medical visit because you cannot bill for the amount of time you are spending with the patient in the group setting. You can however, bill for your individual patient exam, review of the patient's chart, medication revision, and the counseling you provide. If your visit becomes more complex in terms of ordering labs, changing medication regimens and addressing any acute concerns, as long as your documentation is clear, a 99214 coding is appropriate. A sample group visit diabetes progress note is available through the AAFP to streamline the documentation process.[7] It is also possible to bill group treatments by a nutritionist or behavioral health specialist, however the non-physician provider must bill for this and it is recommended to contact the payer ahead of time.[6] Additionally you can bill private payer insurance companies for a SMV similarly as the coding recommendation provided by CMS, but it is also recommended that you ask for these instructions in writing by the specific insurance company.[6]

Outcome Measures from Shared Medical Visits

Incorporating SMVs into a group visit has multiple benefits for patients and for a practice as a whole. One encouraging finding within our practice is the high patient satisfaction scores and improvement of scores over a 12-month period. After every session patients received surveys to assess their overall experience with the group visit. The survey has a three-point scale (agree, disagree, or neutral) to help evaluate patient satisfaction through the following questions:

Table 3. Survey Questions

Topics were relevant to me
My concerns were adequately addressed
I received enough attention from my doctor
I am more aware of the medical team availability
I was comfortable asking my questions
I understand the resources available
The visit was well organized
My overall health has improved
I would recommend attending group medical appointments to others
I would come to another group appointment like this
It was helpful to be in a group appointment like this

On average, the positive response rate was 86% after the first 6 months, which increased by 11.9% to a 95% positive response rate after 12 months. Similarly, in a retrospective three-year study examining overall patient satisfaction and patient centered experiences among patients with SMVs versus usual care appointments, SMV patients were more likely to rate their overall satisfaction with care as "very good" when compared with usual care counterparts.[9]

In addition, we had several patients improve their HbA1c with similar success as described in the introduction to this article. A systematic review and meta-analysis published in the CMAJ in 2013 evaluated the evidence on the effectiveness of shared medical visits in the treatment of diabetes. The review included 26 studies, 13 of which were randomized controlled trials, and showed that SMVs had a positive effect on clinical and patient reported outcomes with significant reductions in HbA1c (-0.46%, 95% CI -.80%to -.31%).[2]

Areas for Improvement

Given the success rates in improving access to our patients with type II diabetes mellitus and pre diabetes and the literature proving the success rates of SMVs, we are working on developing shared medical visits for more chronic conditions including coronary heart disease, obesity and smoking cessation. In order to increase show-rates of patients, we are aiming to include a SMV during a weekday, increasing promotional efforts with more outreach and educating primary care providers on informing their patients of the sessions.

Summary

With patient-centered care and value-based payments as the primary goals of the new health care model, SMVs can enhance access and productivity for any primary care practice...[8] As a primary care physician practicing in a busy urban office experiencing the daily challenges of treating complex patient populations, I appreciate the positive interactions that I have had with my patients in group settings. Most importantly, it is gratifying to experience the sense of empowerment that a patient feels after a session. The success of my patients in a group visit has helped me realize that with appropriate teaching, education and support from a group of health care providers, a return to strong health is possible.

Endnotes

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