Reaching Beyond the Walls of the Clinic: Lessons learned from an interdisciplinary initiative grounded in community partnerships

Emma Morton-Eggleston MD, MPH, Sarah Moerschel MD, Jon Deiches PhD, Nathan Fiore BS
New Health Center Working Hard to Fight Diabetes and Obesity

The statistics are daunting, but just as hard to ignore. West Virginia ranks number one nationally for obesity and diabetes. Dedicated healthcare providers at West Virginia University (WVU) have created the Center for Diabetes and Metabolic Health at 1801 South Kanawha Street in Morgantown, WV, to fight back and eliminate these staggering trends by preventing and reversing these conditions. The center had a ribbon-cutting ceremony and open house last November.

"We are using a team approach," says team member and the center's director, Dr. Elaine Morton Eggleston. "We work with all ages, too. The whole family has to be on board."

Dr. Eggleston emphasizes that diabetes is an intergenerational disease that is deeply connected to social relationships and has profound impacts not only on physical health but also on a person’s sense of well-being, and this can extend to the well-being of entire families and communities.

"Regarding weight, being overweight or obese puts enormous pressure on the heart and adds years to the body," says Eggleston. "We have to help people find balance in their lives, which means finding the right mix of exercise, diet, and stress management." Dr. Eggleston talks about the four pillars that are essential to success in the battle against obesity and diabetes, combining state-of-the-art medical care with the four pillars of food, exercise, sleep, and stress reduction.

"And with exercise, that doesn’t necessarily mean going to the gym," Dr. Eggleston says. "It can simply mean getting mobile to move more."

The center seeks to prevent, treat, and reverse diabetes and metabolic disease such as high blood pressure, high blood sugar, excess body fat around the waist, and abnormal cholesterol or triglyceride levels that occur together, increasing the risk of heart disease, stroke, and diabetes.

Heather Wright, MSN, APN, FNP-BC – Jonathan Driches, PhD – Emma Morton Eggleston, MD, MPH
Sarah Moorschel, MD – Rosemarie Canevelli-Lorenzetti, MD, MPH

Dr. Eggleston’s goals are to prevent diabetes in children and young adults, as well as to reduce the number of adults who are newly diagnosed with diabetes. The center also focuses on reversing the disease in those who have been diagnosed with diabetes.

Dr. Eggleston believes that the key to fighting diabetes is to focus on prevention and to educate people about the importance of maintaining a healthy lifestyle. She also emphasizes the importance of early intervention and education in order to help people make positive changes in their lives.

Dr. James Field, who is also an endocrinologist who sees adult patients at the center, attended medical school at the West Virginia University School of Medicine. He completed residency training in internal medicine and did his Endocrine Fellowship at the University of Pittsburgh Medical Center. Dr. Field was born in Pittsburgh, he was raised in the Eastern Panhandle of West Virginia and realizes many of the unique challenges West Virginia’s face. He takes a special interest in diabetes care. His goal is to help manage the disease while promoting healthy habits that will reduce serious consequences.

Dr. Sarah Moorschel is a pediatrician who sees children and adolescents in the Healthy Kids Clinic at the center. Dr. Moorschel attended the University of Pennsylvania School of Medicine before earning an MD in 2004. She has practiced general pediatrics in Jefferson County for more than 10 years. She is currently studying for the Obesity Board certification, having practiced general pediatrics in Jefferson County for more than 10 years. She understands the challenges of good nutrition and
Who we are:

An interdisciplinary initiative to prevent and treat obesity, diabetes, and related metabolic disorders across the life-span.
Mission:

To lift the burden of metabolic disease in our patients and our communities and help them reach their healthiest potential.
Goals:

Provide the highest level of preventive and therapeutic care across the spectrum of metabolic disease from obesity to overt diabetes

Provide care tailored by

- life stage
- risk status
- socio-demographic needs

• Employ population approaches to improve quality of care and collaboration with community partners

• Employ health IT to improve quality of care and collaboration with community partners
High Risk Populations:

- Patients with multiple medical co-morbidities/frequent ED visits:
  - Co-morbid depression
  - Co-morbid substance use
Approach:
Tailored Care

Individualized Plan:
- Nutrition
- Movement
- Stress Reduction
- Sleep

Management of:
- Medications
- Co-morbidities
- Mental Health

Spectrum of Metabolic Disease

Obesity | Prediabetes | Diabetes | High-Risk/Comorbid

Life cycle

Childhood / Adolescence | Pregnancy | Adulthood | Elderly
Our Team:

- NP
- Diabetes Education
- Nutrition
- Psychology
- Family Practice
- Pediatrics
- Endocrine
- Community Partners
Community Connect Rx (CRx)

Electronic Health Record (EHR) based intervention to connect patients and families with community resources via provider prescriptions signed and reviewed during the clinical visit.
Types of Resources:

• Food
  ➢ farmers market, food bank, food kitchen, community garden – other that we need to build upon

• Movement/Exercise

• DPP/Chronic disease classes

• Substance abuse resources

• Mental Health resources

• Family resources

• Resources for the elderly

• Health care financial planning

• Transportation
A Worked Example...

- Middle aged man with poorly controlled diabetes on insulin and multiple other meds living in truck with his partner
- History work injury, pain medication dependence
- History bipolar disorder
- Eating at fast food restaurants, gas stations
- Trying to establish stable life but facing range of barriers
- Glucose, blood pressure control directly related to life circumstance

Through the EHR...

Through pamphlets, google search and piece of paper...
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the last 12 months, did you ever eat less than you felt you should be because there wasn't enough money for food?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In the last 12 months, has your utility company shut off your service for not paying your bills?</td>
<td></td>
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<tr>
<td>Are you worried that in the next 2 months, you may not have stable housing?</td>
<td></td>
<td></td>
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<tr>
<td>Do problems getting child care make it difficult for you to work or study? (Leave blank if you do not have children)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In the last 12 months, have you needed to see a doctor, but could not because of cost?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In the last 12 months, have you ever had to go without health care because you didn't have a way to get there?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you ever need help reading hospital materials?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are you afraid you might be hurt in your apartment building or house?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If you checked YES to any boxes above, would you like to receive assistance with any of these needs?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are any of your needs urgent? (For example: I don't have food tonight, I don't have a place to sleep tonight)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Close
Community Connect Rx (CRx)
Community Connect Rx (CRx)

Legal Aid of WV
525 Winchester Ave
304-263-8871

Union Rescue Mission
608 W. King Street
Mon-Sat 7 am, 11:30 am, 4:30 pm
Sun 8:00 am, 12:30 pm, 4:30 pm

WV Fresh Healthy BUCKS
Corner of King and Queen Streets
Fridays 4:30 pm-7:30 pm
VA Medical Center
510 Butler Ave
Wednesdays 9 am-12 pm
Shepherdstown
German Street behind the library
Sundays 9 am-1 pm

Housing Assistance
Martinsburg Housing Authority
703 Porter Ave
304-263-8891
MedCHEFS student now applying lessons in the real world

LOCAL NEWS
FEB 28, 2018
MATT WELCH
City Editor
swwelch@journal-news.net

MARTINSBURG — When Dr. Madison Humrick stood in the Mountainaire Room of the WVU Health Science Center Eastern Division educational building and watched third-year medical students preparing healthy meals, it took her back.

Five years ago, Humrick was one of those students, albeit a fourth-year medical student taking the class on her own time.
Lessons learned one year in...
Sarah Moerschel, MD
Pediatrician, Director of the Healthy for Life Clinic for Children and Adolescents
Case #1

- 7 year old boy with Class 3 obesity and NASH

- **FOOD:** school breakfast and lunch, Mac and cheese, cereal, noodles, sweet tea.

- **MOVEMENT:** sedentary

- **SLEEP:** sleeping well, falls asleep with the TV on

- **STRESS REDUCTION:** Joyful child without behavior concerns. Significant stressors of Mother’s depression, poverty, and unsafe neighborhood.
Food advice in a multidisciplinary group
# THE FOOD LIST

## EAT THESE!
- Veggies
- Meats
- Fish
- Eggs

## EAT SOME OF THESE
- Whole Grain Bread
- Whole Grain Pasta
- Brown Rice
- Fruit
- Legumes
- Corn Tortillas

*tailor for diabetes

## ELIMINATE THESE!
- White Bread
- White Pasta
- White Rice
- White Potatoes
- Sugar
- Soda and juice and sports drinks
- Cereal
- Cakes, Cookies

## PORTION SIZE
- DAIRY
- BREAKFAST
- SNACKS
- LUNCH BOX
Sugars and school breakfasts

• Jefferson County School District menu:
  • M, W, F: Breakfast sandwich, fruit, juice, milk
  • Tu, Th: Pastry, yogurt, fruit, juice, milk

• WHO recommends less than 25 g of added sugars daily
Changing sugary breakfasts

The in-home solution:

Patient and mom design a menu for several breakfasts that contain protein

Challenges:

Affordability
Time (getting up earlier)
Trying new foods

The community solution:

Eliminate juice and pastries from the school breakfasts

School Wellness Committee
County Nutrition Administrator
State and National Nutrition Policy changes
Food – Community Outreach

• Salvation Army
  • Food Bank
    • Donations
    • Fresh veggies

• Cooking Classes
  • Youth Group
  • Women’s Group
  • Food Bank clients
Food – Community Cooking Classes

- Prediabetes
- Diabetes
- Hypertension and Heart Disease
- Metabolic Syndrome and Weight
- Celiac Disease
- Irritable Bowel Syndrome

- Kids Cooking
- Basic Cooking Techniques
- Holiday cooking ideas
Food – In-Home Community Intervention

• Birth to Three
• Early Head Start

Photo from transforminghealth.org
Movement

• Neighborhood where you can walk or play outside safely?
• Friends or family who will walk or play outside with you?
• Enjoy basketball, swimming, dance, going to the gym?

• Setting a step-wise goal: Days per week, minutes per day of enjoyable activity

• Aim for 30-60 minutes per day
Movement and our 7 year old

- Sedentary with multiple barriers to outdoor play
- Plays 1 hour of active Wii games per day
- We will continue to work on this...
Movement – Community Outreach

• Freedom’s Run

• Elementary school trails
  • During the school day “Daily Mile”
  • Community use
Movement – Community Outreach

• Middle school cross country program
  • No cuts
  • Free Sports Physicals

Image from Shepherdstown Chronicle
Sleep and our patient

• Screen time before bedtime?
• TV in the bedroom?
• Phone in the bedroom?
• Sleep hygiene –
  • Consistent bedtime?
• Snoring and obstructive sleep apnea
Stress and our patients

- Loss of parents and family members
  - Opioid epidemic
- Anxiety/depression
  - Kids and parents
- Poverty
- Bullying and weight-based bias
- Referral to Behavioral Health?
  - Building skills
  - Building resilience
  - Building communication
Lessons learned one year in...

- Obesity is complex

- It takes TIME to understand a family’s habits – Who? Why?

- Every family is unique
- Every intervention is unique

- Small changes over time with support and reinforcement = long term behavior change
Lessons learned one year in...

• Community organizations that have identified the need for change are easy partners

• Increasing awareness and providing education to other organizations can be more challenging

Working with individual patients + making changes in the larger community = creating significant change!
Jon Deiches, PhD
Clinical Psychology Postdoctoral Fellow
Disordered Eating

- Disinhibited eating behaviors
  - Emotional eating
  - Binge eating
  - Feeling out of control
  - Feelings of guilt/shame associated with eating

- Shifting the way we think about food / eating
  - Coping vs. nourishing
Disordered Eating

• Food logs
  • Mindless eating
  • Emotion vs. hunger
  • Eating schedule
  • Food choices
  • Ways of thinking about food and eating

• “It’s not fair that I can’t eat what others eat”
• “feeling too restricted”
• “I need to clean my whole plate”
• “I already blew it today”

• Bored, angry, depressed
<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>Hunger Scale</th>
<th>Food &amp; Drink Consumed</th>
<th>People/Place (Who saw you eat &amp; Where did you eat)</th>
<th>Binge Restrict U-Urge A-Acted</th>
<th>Binge U-Urge A-Acted</th>
<th>Thoughts</th>
<th>Feelings</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/31 8:00</td>
<td>9/9</td>
<td>3 pieces toast, coffee &amp; sug.</td>
<td>No one</td>
<td></td>
<td></td>
<td></td>
<td>too full</td>
</tr>
<tr>
<td>11:00</td>
<td>7/10</td>
<td>2 grilled cheese, carrots, orange juice, 3 cookies</td>
<td>No one</td>
<td>U</td>
<td>A</td>
<td>I have a lot of work to do today, I want to</td>
<td>mad</td>
</tr>
<tr>
<td>5/10</td>
<td>5/10</td>
<td>1 Bratwurst, salad, cream, 1 slice bread</td>
<td></td>
<td>U</td>
<td>A</td>
<td>I feel weak, need to eat something to do</td>
<td>dismast</td>
</tr>
</tbody>
</table>

You feel fatigued & unable to concentrate, very hungry and need to eat but have no control of food choices then 1

You're just beginning to feel signs of hunger

You feel satisfied

You feel bloated

So full that you feel uncomfortable.
<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>Hunger Scale (1-10)</th>
<th>Food &amp; Drink Consumed</th>
<th>People/Place (When and where did you eat)</th>
<th>Restrict U-Utigue A-Acted</th>
<th>Binge U-Utige A-Acted</th>
<th>Thoughts</th>
<th>Feelings</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/20/19 9:00 AM Breakfast</td>
<td>4</td>
<td>Coffee, water</td>
<td>Home</td>
<td></td>
<td></td>
<td></td>
<td>Good</td>
</tr>
<tr>
<td>1:15</td>
<td>4</td>
<td>Chicken, salad, water</td>
<td>Home</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:00</td>
<td>3</td>
<td>Soup, water</td>
<td>Home</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:30</td>
<td>3</td>
<td>Cut, salad, water</td>
<td>Home</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00</td>
<td>5</td>
<td>Carrots, water</td>
<td>Breakfast</td>
<td></td>
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</tbody>
</table>

**Hunger Scale**
- 1: Very hungry
- 5: Just beginning to feel signs of hunger
- 10: Full

**Feelings**
- Good
- Need to eat more
- Feel better
- Not hungry
- Hungry
- Full
- Uncomfortably Full
- Stuffed
- stuffed
Behavioral Health: CBT-E

- Establishing a regular eating schedule
- Changing eating behaviors
- Addressing maladaptive thought patterns

(Fairburn, 2008)
Behavioral Health: CBT-E

- Establishing a regular eating schedule
- Changing eating behaviors
- Addressing maladaptive thought patterns
- Insert photo of CBT-E model of ED / binge eating
Sleep – Behavioral Sleep Medicine

- Screening for sleep problems

- Sleep hygiene
  - Electronics
  - Establishing a routine
  - Stimulus control

- CBT-I
  - Sleep logs
  - Sleep restriction / consolidation
  - Relaxation / adaptive thinking
<table>
<thead>
<tr>
<th>Today's Date</th>
<th>Day of the week</th>
<th>Type of Day</th>
<th>Noon</th>
<th>1PM</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6PM</th>
<th>7</th>
<th>8</th>
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<th>10</th>
<th>11PM</th>
<th>1AM</th>
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<th>4</th>
<th>5</th>
<th>6AM</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
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<tr>
<td>sample</td>
<td>Mon.</td>
<td>Work</td>
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Stress

• Treatment for depression, anxiety, trauma disorders

• Stress management skills
  • Developing a sense of control
  • Mindfulness
  • Allowing time for self-care
Case #2

- 40 y/o woman with BMI of 42, hyperglycemia, binge eating disorder, had two miscarriages in the past year

- Initially too emotionally distraught to change lifestyle behaviors

- Phase 1: grief counseling
- Phase 2: BED treatment with CBT-E
- Phase 3: lifestyle changes
- Phase 4: Cognitive Processing Therapy to address PTSD
New Directions

• Getting into nature
  • Research shows that spending time in nature improves anxiety, affect, and rumination
  • Trail days
  • Walking paths
  • Play days in local parks
Lessons learned one year in...

• People can really thrive when they understand their relationship with food, find balance, and learn to eat for nourishment

• Integrating behavioral health makes comprehensive care more accessible (and possible)

• Resistance and stigma remain as barriers to care
Nathan Fiore
Clinical Research and Community Outreach Coordinator
Why Community Outreach?

• What is the role of my position and how did it become established?
  • Try This 2017

• Growing call from national organizations for health care systems to engage in improving population health.
  • Public health leaders have prioritized community-clinical linkages as an effective approach to prevent and control chronic diseases.
As a Health Professional...
How to Engage With Your Community

• Prioritize Community Outreach.
  • Fund Community Outreach

• Build on existing relationships and strengths of your community.
  • Don’t reinvent the wheel
As a Health Professional...

How to Engage With Your Community

• Follow the Community’s Lead.
  • Be the support

• Flexibility is a must.
  • Be willing to adjust programs and models to fit your specific community

• Be humble and listen.
As a Community Member...

How to Engage With Your Health System

• Build on existing relationships.
• Partner on common health interests and goals.
• Find the group of providers who are community champions.
• Stress the importance of your need for engagement.
• Plan far in advance.
Extending beyond the Walls...

• The Food Pantry Nutrition Initiative (FPNI).
  • JCCM and The Salvation Army
• Healthy Berkeley
• Old Town Ranson Community Gardens
  • Farm to You!
• The Promise Neighborhood Community Garden
• Farmers Market
• Freedoms Run
• MedCHEFS Community Cooking Demonstrations
What is the FPNI?
Food Pantry Nutrition Initiative
Healthy Berkeley

Thanks to the Healthy Berkeley committee for entry in the Chili Cook Off - Nathan Fiore Cobby Davis Jon Dieches Cheryl Abbott Lori Chris N Lori Lawson Robin Truax and volunteer Teather. Valiant effort!
Farm to You: Healthy Harvest
The Garden of Promise
Walk with a Doc

• Monthly in 2 counties
Farmers Market
Lessons learned one year in ...
Thank you!

Questions, perspectives or experiences to share?