Impact of RDN-led medication therapy trial on Type 2 diabetes outcomes

Gretchen Benson, RDN, LDN, CDE
Population Health Program Manager
Minneapolis, MN

Joy Hayes, MS, RDN, LDN, CDE
Population Health Specialist
Minneapolis, MN
Disclosure to Participants

• Notice of Requirements For Successful Completion
  – Please refer to learning goals and objectives
  – Learners must attend the full activity and complete the evaluation in order to claim continuing education credit/hours
• Conflict of Interest (COI) and Financial Relationship Disclosures: None
• Non-Endorsement of Products:
  – Accredited status does not imply endorsement by AADE, ANCC, ACPE or CDR of any commercial products displayed in conjunction with this educational activity
• Off-Label Use:
  – Participants will be notified by speakers to any product used for a purpose other than for which it was approved by the Food and Drug Administration.

Funding Provided by

Diabetes Care and Education
a dietetic practice group of the
Academy of Nutrition and Dietetics

IDENTIFY
potential benefits of utilizing a telemedicine program in a rural community

DESCRIBE
at least 3 steps in implementing a facility-based medication protocol

DISCUSS
the benefits of utilizing multidisciplinary teams to maximum potential
HeartBeat Connections Program

• Primary prevention program delivered as part of a 10 year research initiative

• High risk patients identified proactively from the medical record


HeartBeat Connections

Focused on optimizing major risk factors such as cholesterol, blood pressure, nutrition, exercise, and stress

→ Extension of Primary Care

HeartBeat Connections Program

1 IN 3 ELIGIBLE PEOPLE ENGAGE IN PROGRAM
30% INCREASE IN PARTICIPANTS MEETING RECOMMENDED LEVEL OF 150 MINUTES PHYSICAL ACTIVITY/WEEK
50% DROP IN SMOKING AMONG PARTICIPANTS
70% OF PARTICIPANTS IMPROVED CHOLESTEROL
HeartBeat Connections Program Impact

80% of our health is influenced by what happens outside the clinic walls

Process for the Medication Protocol

Minnesota Statutes 148.634 PRESCRIPTION PROTOCOL

A licensed dietitian or licensed nutritionist may implement a protocol that does not reference a specific patient and results in a prescription of a legend drug that has been predetermined and delegated by a licensed practitioner as defined in section 151.01, subdivision 23, when caring for a patient whose condition falls within the protocol and the protocol specifies the circumstances under which the drug is to be prescribed or administered.

Licensure and Medication Protocols

Idaho Statute 54-3502A

A licensed dietitian, in accordance with established protocols consistent with facility policy or procedure, may: (a) Order patient diets, including therapeutic diets; (b) Implement medical nutrition therapy; (c) Order medical laboratory tests related to nutritional therapeutic treatments; (d) Initiate, implement and adjust pharmacotherapy plans; and (e) Perform nutrition-focused physical assessments to evaluate for nutritional risk.
Supporting Research

Performed a literature review of nurses and dietitians to support and inform facility leaders

• Dietitians implemented a telephone-based system to lower LDL cholesterol. LDL ≤100 mg/dl improved from 34% to 61% (Robinson 2000)
• A dietitian-led lipid clinic achieved significant improvements in total cholesterol and triglycerides. (Worth and Davies 2006)

Process for the Medication Protocol

• Presented findings to local medical center primary care group and gained consensus
• Formed an oversight committee to inform/refine policy

Knowledge Is Power

Use data to build your case!

• 65% did not take daily aspirin
• Of those with LDL cholesterol ≥100 mg/dL, 81% did not take a statin
• Of those with blood pressure ≥140/90 mm/Hg, 56% did not take an anti-hypertensive medication.
  = major untapped opportunity!
Implement a Successful Medication Protocol

- Invite key stakeholders to serve on a committee to oversee the creation of the medication protocol
- **Collaborate with primary care**! Emphasize how you can support their relationship with the patient and help them overcome barriers
- Learn who ultimately needs to sign off on your protocol and how often it should be updated

---

**ENHANCED STUDY**

DIETITIANS HELPING PATIENTS CARE FOR DIABETES

---

**Background/Rationale**

- **Population**
  - A growing and aging population
  - Increased prevalence of diabetes
- **Physician Shortage**
  - Projected 20,400 primary care physician shortage by 2020
- **Health Care Reform**
  - Limited provider time
  - Incentives for healthy populations
- **Change**
  - Opportunity to enhance current primary care prevention practices
  - Collaborative team approach
To investigate the efficacy of a RDN-led telemedicine program compared to a control (usual care) group

Randomized Control Trial

Study Objective

- Maintain blood glucose (A1c <8%)
- Manage blood pressure (<140/90)
- Be tobacco-free
- Take aspirin as recommended
- Take statin as recommended

Site Selection

- Hutchinson, MN
- New Ulm, MN
Recruitment

- Patients receiving primary care at Hutchinson Health or New Ulm Medical Center with 1+ clinic encounters in the previous 2 years
- Age 40-75 years
- Type 2 diabetes meeting 0-3 D5 measures

Exclusion

- Meeting 4 or more D5 measures
- Type 1 diabetes
- Stage 4+ chronic kidney disease
- Major cognitive or language barrier
- Active end-stage disease (cancer, pulmonary disease)
- Actively receiving cancer treatment
- Pregnancy

All Participants

- In-person baseline study visit (30-45 minutes)
- Consent and randomization
- 5 minute consultation with study RDN to review optimal diabetes measures and received Type 2 Diabetes Basics booklet
- Results of diabetes measures mailed to home with optimal measures noted
- In-person follow-up study visit at 1 year (30-45 minutes) - $50 gift card
Enrollment

140 scheduled baseline study visit

120 total participants completed baseline study visit, consented & randomized

10 excluded because of no show at baseline study visit (n=9) or language barrier (n=1)

2 excluded from the analyses for subsequent identification of chronic conditions that met exclusion criteria

Intervention n=60
Control n=58

Study Approach – Intervention

- Telemedicine
- Individualized medical nutrition therapy
- Provider-approved medication protocol

Results

- 108 participants completed the study (12% attrition)
- Intervention participants averaged 10 telemedicine sessions over 1 year
Primary Outcomes

<table>
<thead>
<tr>
<th>Primary Outcomes</th>
<th>Intervention Group (baseline to follow-up)</th>
<th>Control Group (baseline to follow-up)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimal care goals</td>
<td>Significant increase from mean of 3.1 → 3.7</td>
<td>Smaller increase from mean of 2.9 → 3.2</td>
<td>p=0.017*</td>
</tr>
<tr>
<td>Medication use for statin and aspirin</td>
<td>2.5 higher odds for statin</td>
<td>2.2 higher odds for aspirin</td>
<td></td>
</tr>
</tbody>
</table>

*group-by-time interaction

Secondary Outcomes

<table>
<thead>
<tr>
<th>Secondary Outcomes</th>
<th>Intervention Group (baseline to follow-up)</th>
<th>Control Group (baseline to follow-up)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily servings of fruit</td>
<td>1.3 → 1.6</td>
<td>1.1 → 1.1</td>
<td>p=0.012*</td>
</tr>
<tr>
<td>Daily servings of whole grains</td>
<td>1.6 → 1.9</td>
<td>1.7 → 1.5</td>
<td>p=0.005</td>
</tr>
<tr>
<td>Taking medication as prescribed</td>
<td>57% → 75%</td>
<td>43% → 47%</td>
<td>OR=1.4</td>
</tr>
<tr>
<td>A1c level</td>
<td>8.1% → 7.4%</td>
<td>8.3% → 7.7%</td>
<td>p=0.014</td>
</tr>
</tbody>
</table>

*group-by-time interaction

Conclusion

- RDN-led intervention did as good or better on primary outcomes; significantly better on secondary (lifestyle) outcomes
- Telephonic coaching addressed the barriers of geographic inaccessibility and patient and provider time constraints
- Shared responsibility between PCPs and RDNs for diabetes care and self-management
Take Away

RDNs can effectively deliver both nutrition and medication therapies remotely via telephone in full complement to and coordination with clinic-based primary care.

RDN Scope of Practice

- Order and monitor nutrition-related laboratory tests … where an RDN has been granted ordering privileges or received a delegated order from a referring physician.
- Initiate, implement, and adjust protocol- or physician-order-driven nutrition related medication orders and pharmacotherapy plans in accordance with established policy or protocols consistent with organizational policy and procedure.

RDN Scope of Practice

Telemedicine

RDNs use electronic information and telecommunications technologies to support long-distance clinical health care, patient and professional health related education, public health, and health administration.
RDN Standards of Practice and Standards of Professional Performance

Guide for professionals to evaluate and improve practice

**Competent** has credentials to start practicing nutrition or is transitioning to diabetes care from another focus area

**Proficient** has 3 or more years of experience in diabetes care

**Expert** is recognized within the profession and has mastered the highest degree of skill and knowledge in diabetes care


Standards of Practice in Diabetes Care

- Implemented approved medication protocols to initiate and titrate diabetes medications and basic cardiovascular disease preventive medical regimens
- Ordered associated lab orders
- Addressed factors interfering with meeting diabetes goals (cost)
- Considered complex diabetes management issues related to food, changes in conditions and medication.

Collectively, research like this could be used to prompt a Medicare rule change that would allow RDNs to:
- Direct bill Part B for the new remote patient monitoring benefit
- Direct bill for the long-term care management benefit
- Allow MNT coverage for the diagnoses of hypertension and hyperlipidemia
- Allow RDNs to be “eligible clinicians” in the new Medicare Quality Payment Program.
The ENHANCED Study Aligns with AADE Project Vision

- Offered convenient, accessible person-centered care by telephone
- Leveraged technology by using the EMR to identify eligible patients and communicate directly with clinic-based primary care
- Addressed related conditions—hypertension, dyslipidemia and heart disease
- Improved diabetes outcomes

For More Information

questions?
Thank you!
Gretchen Benson, RDN, CDE
gbenson@mhif.org
@gbenson300

Joy Hayes, MS, RDN, CDE
jhayes@mhif.org
@jhayes62