Comparable Outcomes Associated with Telehealth-delivered Team Care for Diabetes in Rural Primary Care Practices

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Very Rapid Growth of Telemedicine/Telehealth

Facilitators
- Rapid technology growth
- Interest of health plans, employers, hospitals, ACOs, PCMHs, forward-thinking physician groups
- Department of Defense and the VA system
- New legislation pending

Barriers
- Organized medicine
- States
- CMS
- Congress
- Licensing and credentialing requirements
- Some remote areas not connected
### Technology for Patient Care in the Diabetes Space is Exploding Daily

#### In the Office
- Telehealth via desktop/laptop/tablet
- Digital retinal imaging cameras
- Diagnostic tool for peripheral neuropathy
- Downloading/sharing, aggregating, and analyzing FSBS/A1c data and push to EHR

#### In the Home
- Wearable monitoring devices with share capabilities (FitBit, CGM, etc.)
- Carb/calorie counters; support
- BP, BS, weight, body composition monitors with Bluetooth capability/interoperability; Glooko for 30 blood glucose meters
- Medication dispensers, vials, injection systems, and adherence apps with messaging
- Ingestible sensor for tablets and sensor-based detection for injection systems – all for medication adherence monitoring
- Closed-loop glucose monitoring with insulin pump

**STRATEGY:** Pushing data to smart phones/watches, cloud sites/EHR; interoperability

**NEED:** Balancing innovation, safety, and confidentiality; recommended engineering standards vs. multiple proprietary strategies; not overwhelming providers with information
Disparate Outcomes in Diabetes in Eastern NC

- The prevalence, morbidity, and mortality from diabetes is 30% higher in eastern NC with approximately 2.5 fold higher rates in African Americans.
Telemedicine for Diabetes Care: The Evidence Base

META-ANALYSIS OF 13 RCT’s OF TELEMEDICINE AUGMENTED CARE vs. USUAL CARE

<table>
<thead>
<tr>
<th>Study name</th>
<th>Difference in means</th>
<th>Lower limit</th>
<th>Upper limit</th>
<th>Sample size</th>
<th>Difference in means and 95% CI</th>
<th>Relative weight</th>
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<td>Bond et al, 2007</td>
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<td>Rakston et al, 2009</td>
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<td>Rodriguez-Iñiguez et al, 2000</td>
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<td>Shea et al, 2006</td>
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<td>0.03</td>
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<td>Smith et al, 2008</td>
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<td>-0.70</td>
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<td>10.21</td>
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<tr>
<td>Stone et al, 2010</td>
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<td>-1.40</td>
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<td>Wakefield et al, 2011</td>
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<td>Weinberger et al, 1995</td>
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<td>-1.31</td>
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<td>4.17</td>
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</table>

Problems Addressed by our Project

• Diabetes management and prevention of complications in rural primary care is frequently exacerbated by profound lifestyle and behavioral challenges that limit health outcomes.
• Patients who have uncontrolled diabetes often require more care than is provided in the average office visit.
• Rural primary care providers are challenged to effectively manage uncontrolled patients and have limited access to additional providers who can assist in delivering needed chronic disease care.
What the PCP often needs

**Someone Else to Help Manage**

**Behavior Modification**
- Dietary changes
- Physical Activity
- Depression Management
- Medication taking behavior
- Therapy/Counseling

**Complications**
Potential to Impact Patients Along the Continuum

Obesity ➔ Pre-DM ➔ DM ➔ CV Disease

Early Intervention and Secondary Prevention!
Tele-TEAM Care Project Design

- Changing the culture in Family Medicine/Primary Care
- Care delivered by a team – PCMH!
- Diabetes team (behavioralist, nutritionist, pharmacist, diabetologist) available via telemedicine at the point of care in rural primary care practices
- Active screening of diabetes patients (PHQ-2, etc.)
- Brief intervention by one or more providers as needed
- Schedule f/u to continue & evaluate progress
- Impact 30-40% highest-risk diabetics in primary care
- Consistent with Medicare transition to quality payment
Members of the Primary Care TeleTEAM

**Targets:**
- Prevention
- Education
- Rewarding positive changes
- Reduce A1c, BMI
- Increase Activation

**Nutrition**
- Develop Appropriate Menus
- Educate regarding food choices
- New ways to prepare food

**Behavioral Health**
- Address Co-morbid Depression
- Improve Adherence
- Increase Activity
- Improve Sleep

**Pharmacy**
- Education of Patient on Meds
- Medication Adherence

**Diabetologist**
- Medical evaluation of complex patients
- Treatment for complications
Referral to TeleTEAM Specialty Services

- Nutrition: 56%
- Behavioral Therapy: 29%
- Pharmacotherapy: 9%
- Diabetologist: 6%
Tools:

Patient screener

- Diet & Lifestyle
- Medication
- Emotional State
- Blood Glucose Control
- Level of Stress
Tools: Scheduling Requests

- Place of Service
- Referring Provider
- Pharmacotherapy, Behavioral Medicine, Nutrition, and/or Diabetologist Consult
- Patient Information
- Reason for Referral
**Encounter Approaches**

- Initial encounter includes minimum of following patient information:
  
  a. Patient reason for visit  
  b. Medical history and diagnosis codes  
  c. Recent biometrics/measures: BP, HT, WT, BMI  
  d. Pertinent labs and medications  
  e. Dietary and lifestyle recall  
  f. Monitoring practices, type of meter, BG readings  
  g. Incidence of hypoglycemia  

- AADE 7 Self-Care Behaviors: Health Eating, Being Active, Monitoring, Taking Medications, Problem Solving, Reducing Risk & Healthy Coping.  

- Each encounter highly individualized
Tools: Increasing Referrals

- Reaching out to patients
- Expanding patient base
- Diminishing reliance upon providers for referrals

Need assistance managing your diabetes?
WE CAN HELP!

Please ask your provider today about our TeleTeam services

Along with your healthcare provider, let us help you control your diabetes successfully.

NUTRITIONIST & PHARMACIST & BEHAVIORAL COUNSELOR

ECU FAMILY MEDICINE: TELETEAM CARE FOR DIABETES
Tools: Updates for Providers

- Newsletters highlighting patient progress
- Extending gratitude for continued support
- Visual reminders of services available to patients
Eat Right Now!

"Let's talk about what you can eat..." This is the main message of the six-part cooking series called "Eat Right Now!"

In cooperation with ECU TV registered dietitian nutritionist Jill Jennings developed a series of shows to help you translate nutrition advice into practical action in the kitchen.

http://www.ecu.edu/csdhs/fammed/divisions/nutrition.cfm
Next Step: TeleTEAM Care ……

…at the Family Doctor’s Office or at Home

• Serving patients in Family Practices in rural NC via telehealth technologies
• Exploring home-delivered care via tablets/smartphones
• 2/2014 – 8/2016
  • 328 patients served
  • 1,219 encounters completed
Comparable Glycemic Outcomes?

- **Research Question:** Can telehealth-delivered team care for T2D achieve comparable glycemic outcomes to team care delivered F-to-F in academic center?
- **Design:** Prospective pre-post comparison in two settings
- **Methods:** Comparable adult patients with uncontrolled T2D referred to team-based care in each setting, treated, and followed for 6 months. Telehealth patients completed satisfaction instruments. Analysis of variance (ANOVA) was used to compare glycemic control (A1c) in both groups.
## Baseline Characteristics of Patients

<table>
<thead>
<tr>
<th>Family Medicine Center Face-to-Face Group</th>
<th>Rural Practices via Telehealth Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 262 patients</td>
<td>N = 190 patients</td>
</tr>
<tr>
<td>Mean age = 58 yr.</td>
<td>Mean age = 57 yr.</td>
</tr>
<tr>
<td>• 62% black; 6% Latino</td>
<td>• 57% black; 11% Latino</td>
</tr>
<tr>
<td>• Mean Weight = 218.0 lb.</td>
<td>• Mean weight = 222.5 lb.</td>
</tr>
<tr>
<td>• Mean A1c = 8.9</td>
<td>• Mean A1c = 9.1</td>
</tr>
</tbody>
</table>
Changes in A1c to 6-Month F/U

A1c Change

Baseline          6-mo F/U

Academic          Telehealth
Pt. Satisfaction in Telehealth Recipients

82% also agreed that Telehealth made it easier to get specialist care
Conclusion

- Patients receiving telehealth-delivered team-based care appear to have COMPARABLE AND NON-INFERIOR GLYCEMIC OUTCOMES to those receiving team-based care delivered face-to-face in an academic medical center setting.
- Patients report high levels of satisfaction with telehealth care.
- These findings suggest the potentially important role of telehealth in expanding the provider base and supporting busy PCPs in rural primary care practices.
What will happen?
# Selected Medicare TeleHealth Codes

## CY 2015 Medicare Telehealth Services

<table>
<thead>
<tr>
<th>Service</th>
<th>Healthcare Common Procedure Coding System (HCPCS)/CPT Code</th>
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</thead>
<tbody>
<tr>
<td>Telehealth consultations, emergency department or initial inpatient</td>
<td>HCPCS codes G0425—G0427</td>
</tr>
<tr>
<td>Follow-up inpatient telehealth consultations furnished to beneficiaries in hospitals or SNFs</td>
<td>HCPCS codes G0405—G0408</td>
</tr>
<tr>
<td>Office or other outpatient visits</td>
<td>CPT codes 99201—99215</td>
</tr>
<tr>
<td>Subsequent hospital care services, with the limitation of 1 telehealth visit every 3 days</td>
<td>CPT codes 99231—99233</td>
</tr>
<tr>
<td>Subsequent nursing facility care services, with the limitation of 1 telehealth visit every 30 days</td>
<td>CPT codes 99307—99310</td>
</tr>
<tr>
<td>Individual and group kidney disease education services</td>
<td>HCPCS codes G0420 and G0421</td>
</tr>
<tr>
<td>Individual and group diabetes self-management training services, with a minimum of 1 hour of in-person instruction to be furnished in the initial year training period to ensure effective injection training</td>
<td>HCPCS codes G0108 and G0109</td>
</tr>
<tr>
<td>Individual and group health and behavior assessment and intervention</td>
<td>CPT codes 96150—96154</td>
</tr>
<tr>
<td>Individual psychotherapy</td>
<td>CPT codes 90832—90834 and 90838—90838</td>
</tr>
<tr>
<td>Telehealth Pharmacologic Management</td>
<td>HCPCS code G0459</td>
</tr>
<tr>
<td>Psychiatric diagnostic interview examination</td>
<td>CPT codes 90791 and 90792</td>
</tr>
<tr>
<td>End-Stage Renal Disease (ESRD)-related services included in the monthly capitation payment</td>
<td>CPT codes 90951, 90952, 90954, 90955, 90957, 90958, 90959, 90960, and 90961</td>
</tr>
<tr>
<td>Individual and group medical nutrition therapy</td>
<td>HCPCS code G0270 and CPT codes 97802—97804</td>
</tr>
<tr>
<td>Neurobehavioral status examination</td>
<td>CPT code 96116</td>
</tr>
</tbody>
</table>
Selected TeleHealth CPT Codes

- 96150, 96151-Health behavior assessment
- 98969, 99444-Online evaluation and management, established patient
- 99201, 99202, 99203, 99204, 99205-New outpatient evaluation and management
- 99212, 99213, 99214, 99215-Established outpatient evaluation and management
- 99241, 99242, 99243, 99244, 99245--Outpatient consultation evaluation and management
- 99499 Unlisted evaluation/management
- G0108, G0109-Diabetic training
- G0406, G0407, G0408-Inpatient telehealth consult
- G0425, G0426, G0427-Ttelehealth consult ED
- 0188T, 0189T-Remote real time critical care evaluation and management

Modifier GQ—(Via asynchronous telecommunications systems). Service codes noted above will not be allowed when modifier –GQ is appended.

Modifier GT—(Via interactive audio and video telecommunications systems). Service codes noted above will be allowed when modifier –GT is appended, and when the provisions under telemedicine and online medical evaluation reimbursement guidelines in this policy are met.