Improving Outcomes in Diabetic Patients

Daniel Tseytlin DO
Lehigh Valley Health Network, Daniel.Tseytlin@lvhn.org

Cheryl Bloomfield MD
Lehigh Valley Health Network, Cheryl_A.Bloomfield@lvhn.org

Ranjit R. Nair MD
Lehigh Valley Health Network, Ranjit_R.Nair@lvhn.org

Carolyn Casey
Lehigh Valley Health Network, Carolyn.Casey@lvhn.org

Vlad Vlatsis DO

See next page for additional authors

Follow this and additional works at: https://scholarlyworks.lvhn.org/medicine

Part of the Endocrine System Diseases Commons, Medical Sciences Commons, and the Medical Specialties Commons

Published In/Presented At
Improving Outcomes in Diabetic Patients

Daniel Tseytlin, DO, Cheryl Bloomfield, MD, Ranjit Nair, MD, Carolyn Casey, DO, Vlad Valtis, DO, Maura Bucciarelli, DO, Chris Kern, DO, Stephen Awuor, MD, Arsha Shreedhar, MD, Ron Julia Jr., MD
Lehigh Valley Health Network, Allentown, Pennsylvania

Number of Adults Diagnosed with Diabetes

1980-2011

Burden of Illness: Diabetes

2010:
- Among US residents aged 65 yo and older, 10.9 M, or 26.9% had diabetes
- 215,000 people younger than 20 years had diabetes (type I or II) in USA
- 1.9 M people aged 20+ newly diagnosed with diabetes

2005-2008:
- Based on fasting HbA1c levels, 35% US adults aged 20+ had prediabetes (of those 50% were adults older than 65)
- Applying this percentage to the entire US population in 2010 yields an estimated 79 M American adults 20 years or older w/prediabetes

Diabetes is the LEADING cause of kidney failure, nontraumatic lower-limb amputations, and new cases of blindness among adults in the United States (major contributing cause of heart disease and stroke)
- Diabetes is the 7th leading cause of death in the United States

Source: CDC. 2011.

Aim Statement

S.M.A.R.T Criteria:
- S= Specific (Who, what, where, when, and why)
- M=Measurable (Concrete criteria for assessing progress toward goal attainment)
- A=Attainable (Must be obtainable)
- R=Reasonable (Must be something you are willing to work towards)
- T= Time Frame (Aim needs to be grounded within a time frame)

What are we trying to accomplish?
- To increase the number of “high risk” diabetic patients receiving monofilament diabetic foot exams.

Reason for Effort
- Diabetes increases risk for peripheral neuropathy. Peripheral neuropathy increases risk for skin breakdown, Charcot joints, and open wounds which predispose to bacteremia, sepsis, osteomyelitis, and potentially need for amputation. These complications impair functional capacity, standard of living, and perpetuate decline.

Improvement Model

PDSA Cycle

1. PDSA Cycle #1: Incorporate all diabetic patients in Lehigh Valley Physicians Practice (not just “high risk”)
2. PDSA Cycle #2: Reveal resident cohort data in addition to practice data to encourage personal accomplishment.

How will we know that a change is an improvement?
- Track the percentage of diabetic patients who receive a yearly monofilament exam in our practice over 6 month time period.

Barriers to monofilament exam
- Providers did not know the patient was “high risk” diabetic patient
- Medical assistant occupied w/multiple tasks
- Resident provider naive of monofilament technique
- Resident provider thought the test was already done by medical assistant

Gaps in Resident Knowledge
- How to properly assess for diabetic neuropathy using the Semmes Weinstein monofilament testing.
- Notification indicating high risk patient in CPO
- Increase house staff communication w/MA’s regarding completion of task

Pre-test and Post-test

- Number of staff taking exam: 16
  - Medical Assistants
  - Registered Nurses
  - Resident Physicians
  - Attending Physicians
- Staff took pre-test, watched instructional video (based on article), took post-test
- 5 questions based on article: questions regarding the monofilament device, Diabetes epidemiology, risk factors, and technique
- Pre-test mean: 40%
- Post-test mean: 96%

LVPP Results

Access by Device: Monofilament Exam

Conclusions

- Unexpected results for internet viewership
- Broad exposure locally, nationally, and internationally
- Short video clips
- People access medical information on multiple platforms
- A way to disseminate information and utilize for future reference

Run Chart

LVPP Diabetic Foot Exams

Conclusions

- Learning the difference between research and quality improvement initiatives
- Organization, leadership, and population health
- Importance of team-based collaboration and education
- Assessment of a need, application of change, follow-up outcome measures … and repeat!
- Differentiation: Responsible Provider, Epic implementation
- Preventive care during acute illness or unrelated chief complaint
- Consistency/Efficiency
- Short instructional videos > longer duration content

Future

- Continue to trend outcomes w/PDSA cycles
- More unified residency goals/QI projects
- Unifying network goals with practice goals
- Incorporation into resident and medical student curriculum

© 2014 Lehigh Valley Health Network