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Use of Interactive Voice Response Technology (IVR) to Improve Compliance with Diabetes Best Practice Guidelines

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Recognition

Heather Sherrard, Vice President Clinical Services, UOHI

Dr. Amel Arnaout, Medical Director Cardiac Diabetes, UOHI

Christine Struthers, Advanced Practice Nurse - Ehealth, UOHI

Bonnie Quinlan, Advanced Practice Nurse – Cardiology, UOHI

Sandhya Goge, Diabetes Nurse, UOHI



Outline

- **Dysglycemia burden**
 - **Interactive Voice Response**
 - **IVR and Diabetes**
 - **Preliminary findings**
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The Glucose Tsunami in Canada

	2015	2025
Estimated Diabetes Prevalence	9.3%	12.1%
Estimated Prediabetes	22.1%	23.2%
Estimated Cost	14 billion	17.4 billion

Estimated diabetes statistics in Canada are generated by the Canadian Diabetes Cost Model.

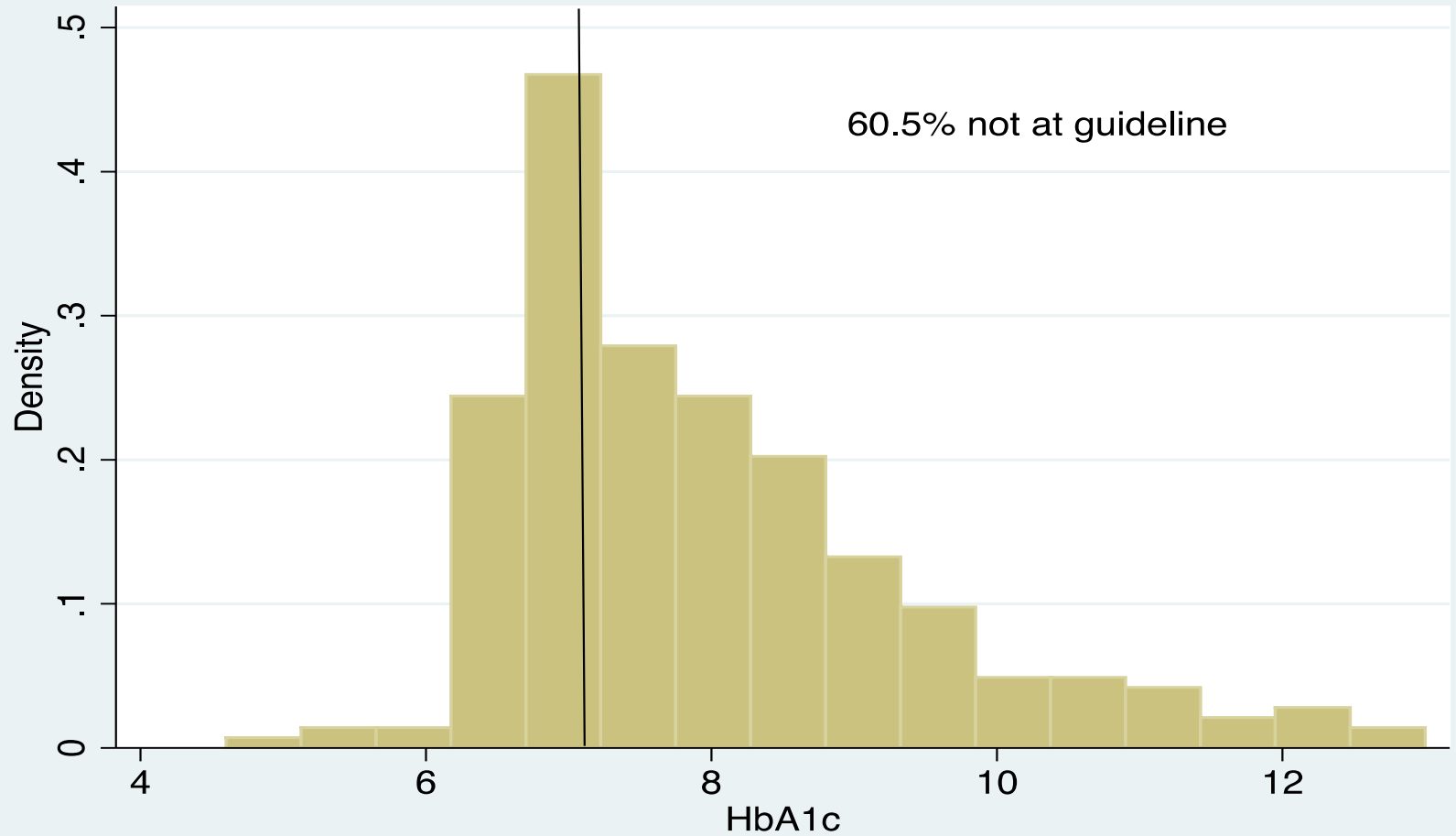


Dysglycemia Burden at UOHI

	%	Patients/year
Total Admissions		~ 6000
Prediabetes	23%	~ 1380
Newly Diagnosed Diabetes	10%	~ 600
Pre-existing Diabetes	30%	~ 1800



HbA1c in Patients Admitted with Known Diabetes





Interactive Voice Response (IVR)

- Automated calling system
- Uses regular or cellular phone
- Delivers preset questions & information to patients
- Responses are captured in database
- Abnormal responses are flagged
- Diabetes nurse educator contacts the patient





Why IVR & Diabetes?

- Chronic disease
 - Requires life long self-management & support
 - Assesses patient adherence
 - Incorporates patient education into messaging
 - Assists with transition home
 - Inexpensive technology
 - Allows contact with large volume in timely fashion
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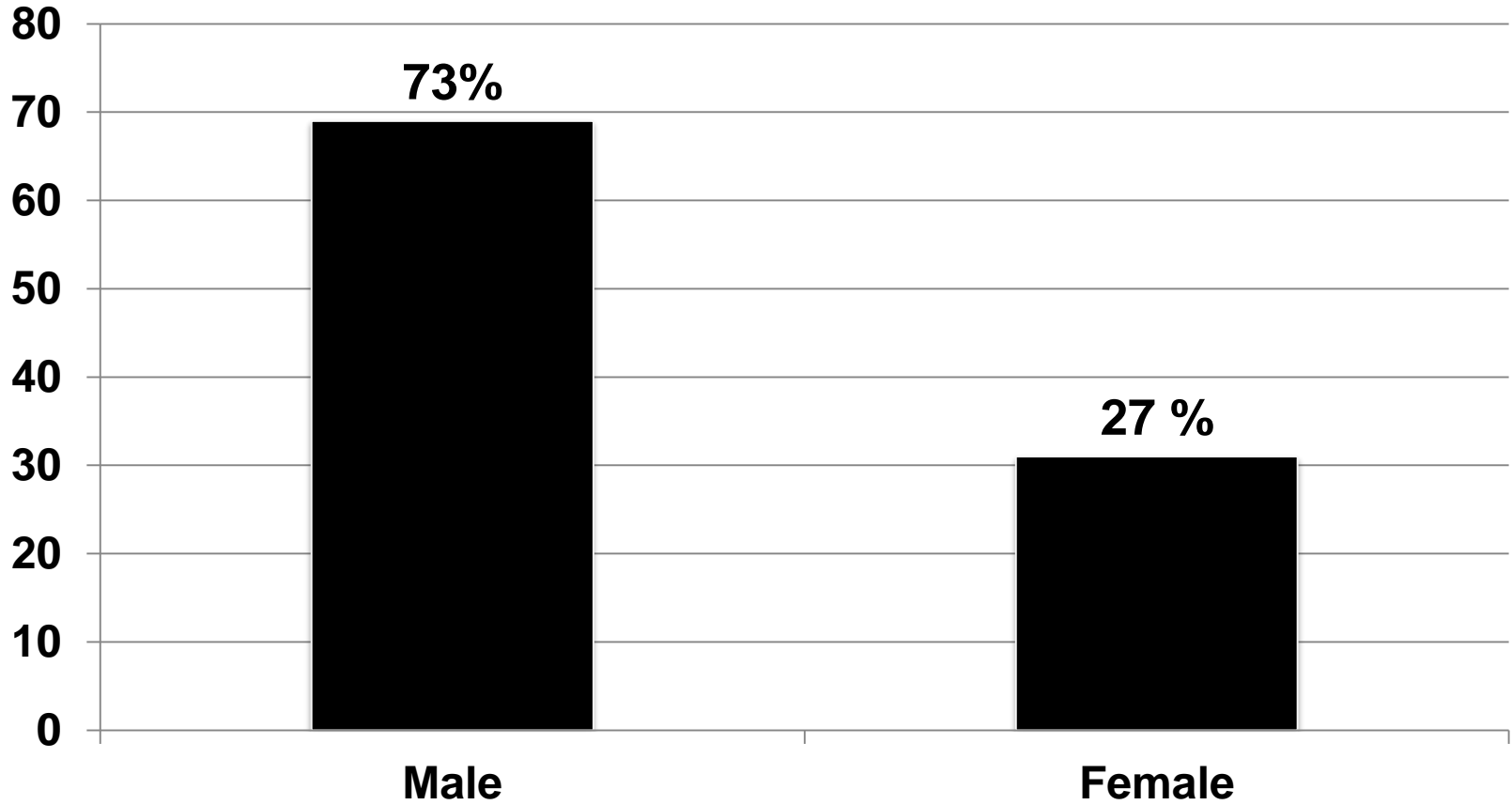


IVR Call Schedule

Program	Call Schedule			
ACS	Day 2	Week 4	Week 12	Week 52
Heart Failure	Day 2	Week 4	Week 12	Week 52
Surgical	Day 3	Week 4	Week 12	Week 52



Patient Demographics



n = 739

Mean Age = 65

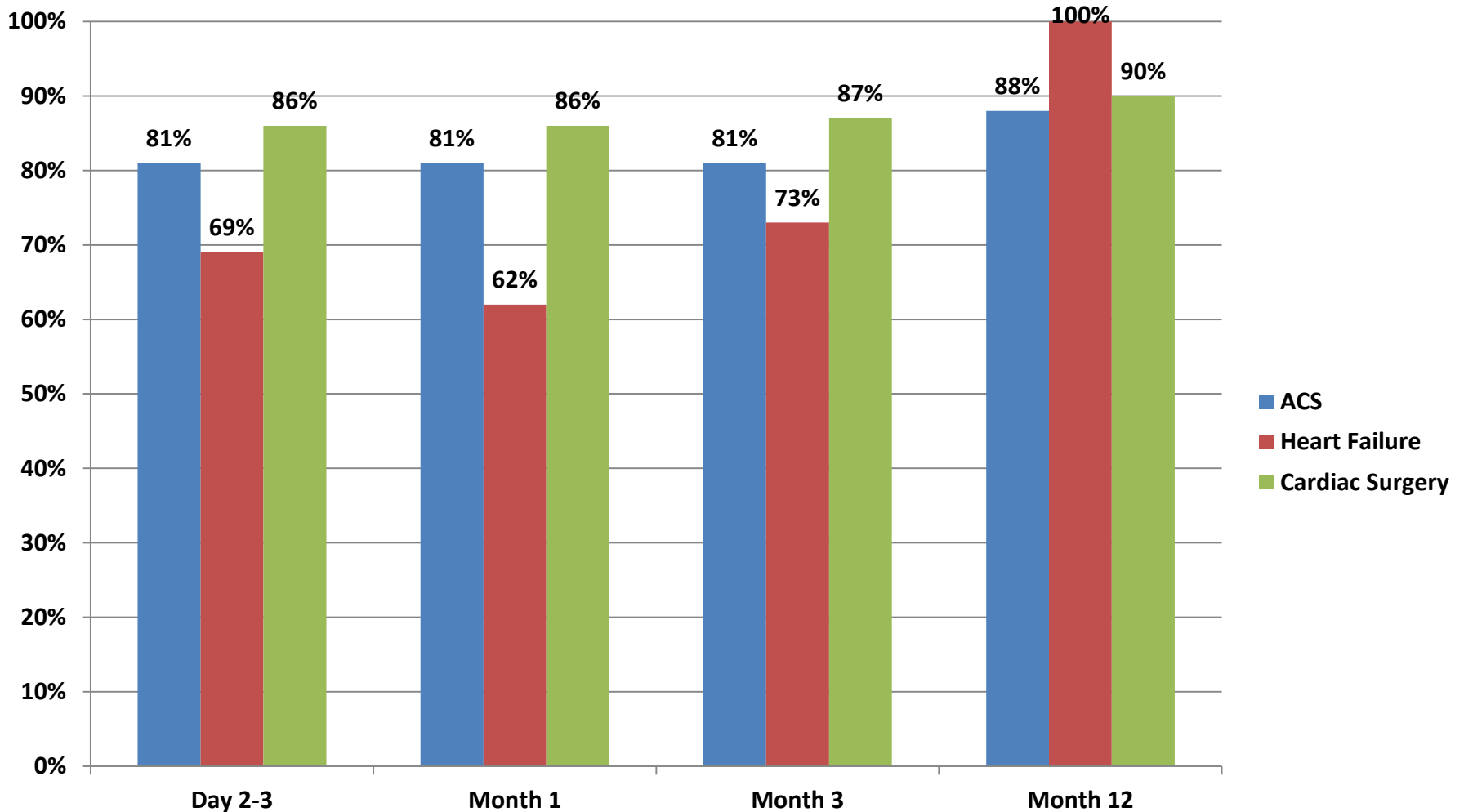


Do outcomes matter?



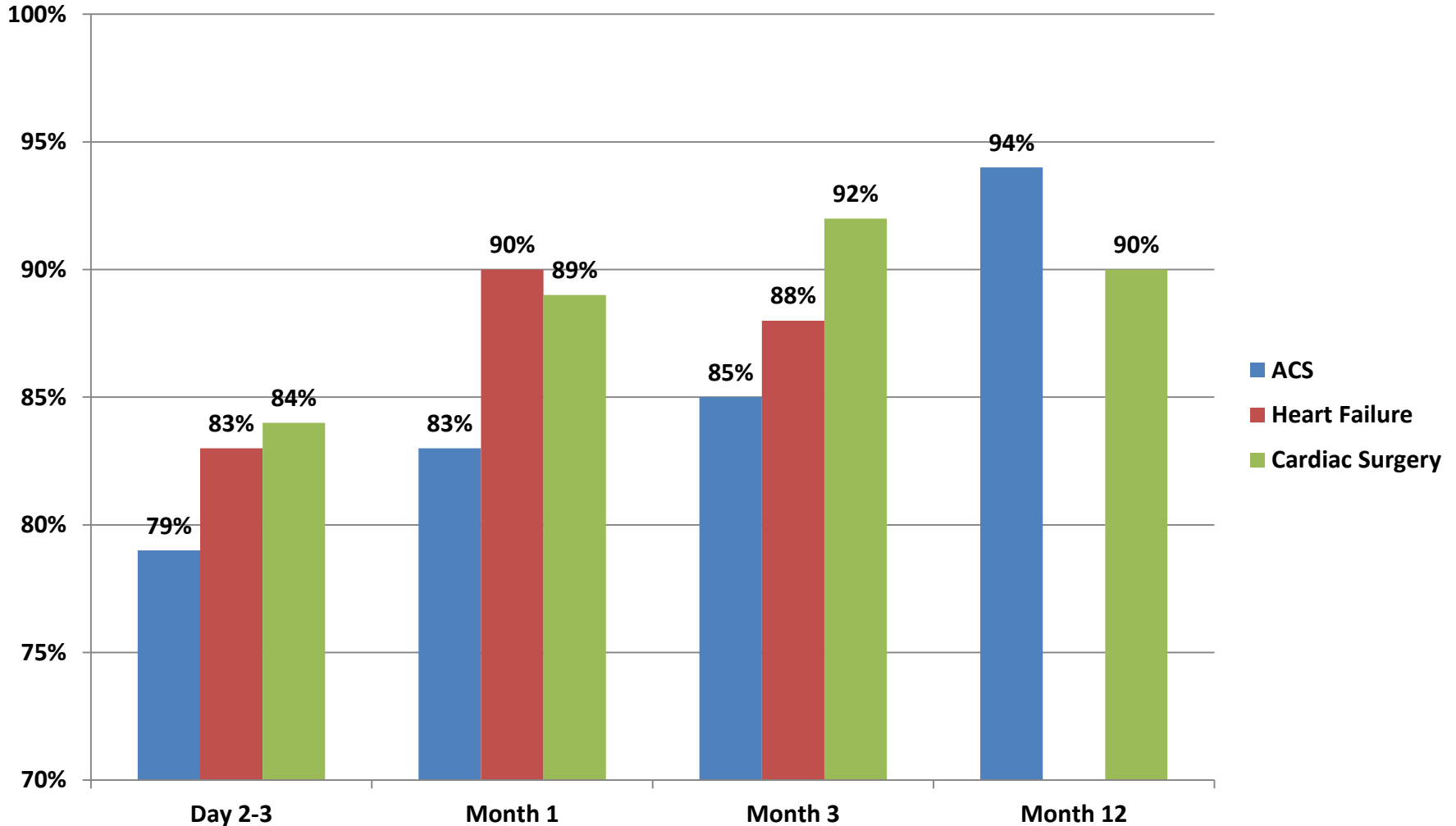


Diabetes Medication Adherence



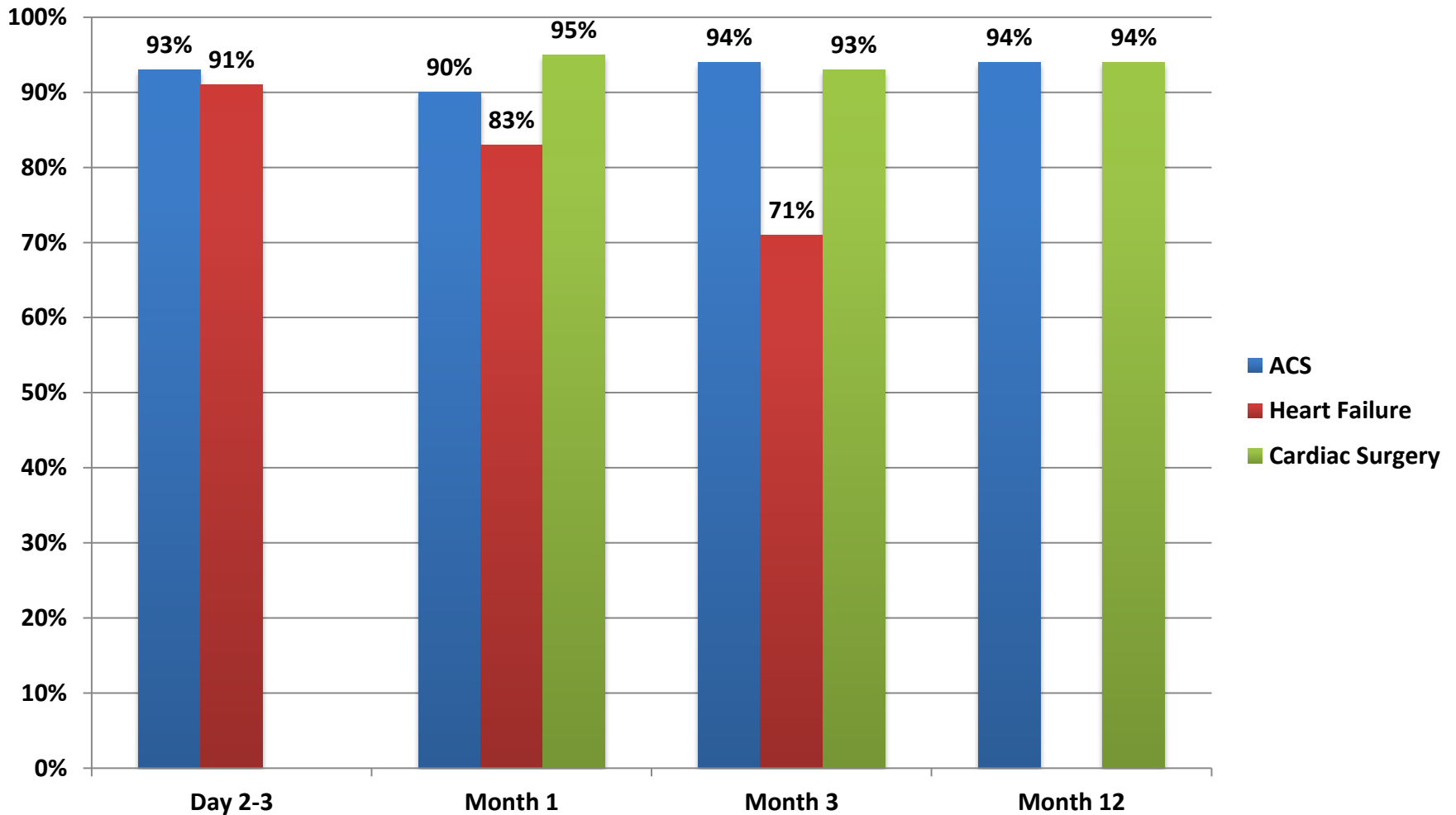


Self Monitoring of Blood Glucose



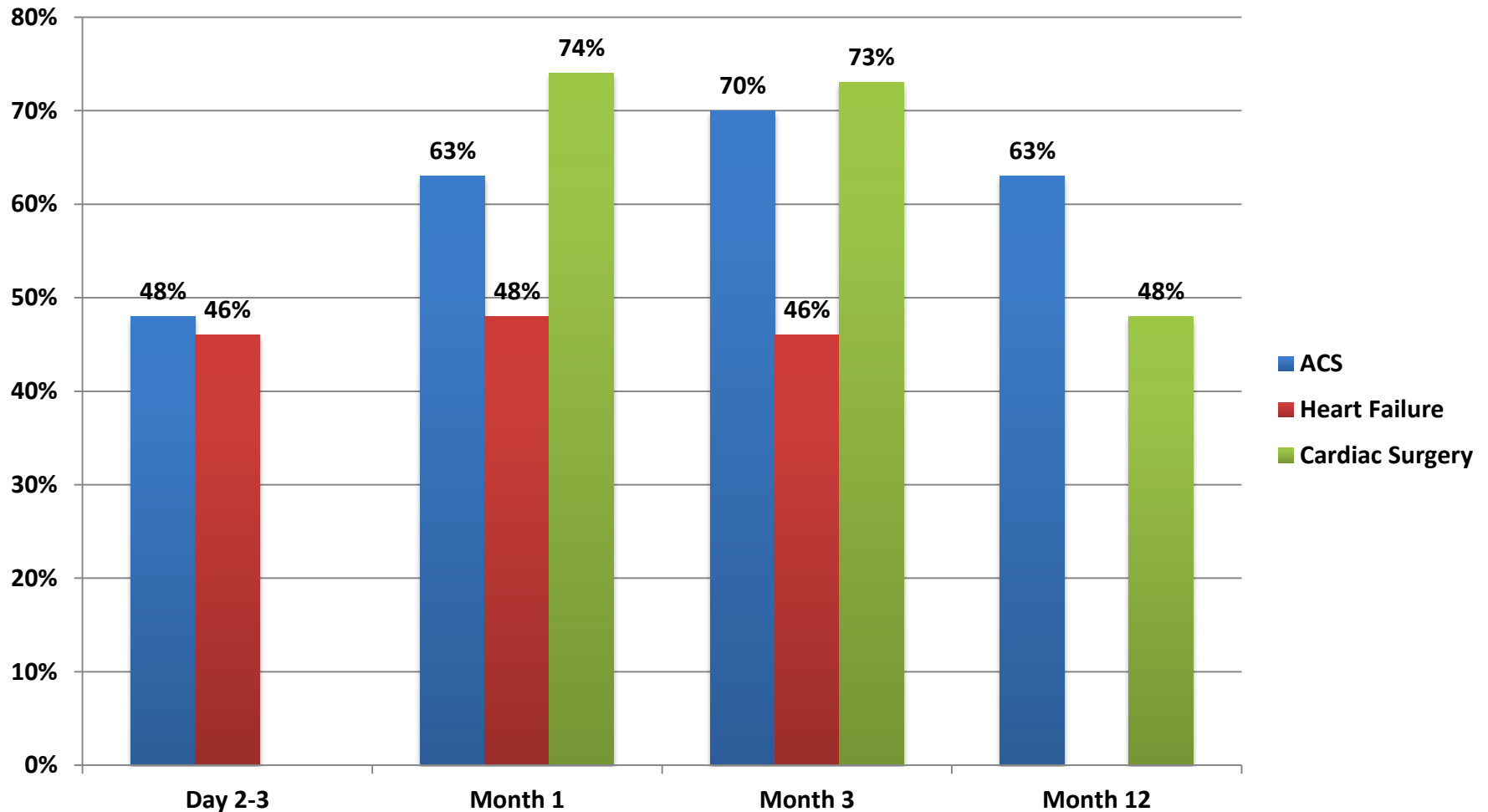


Dietary Adherence – 3 Meals/day



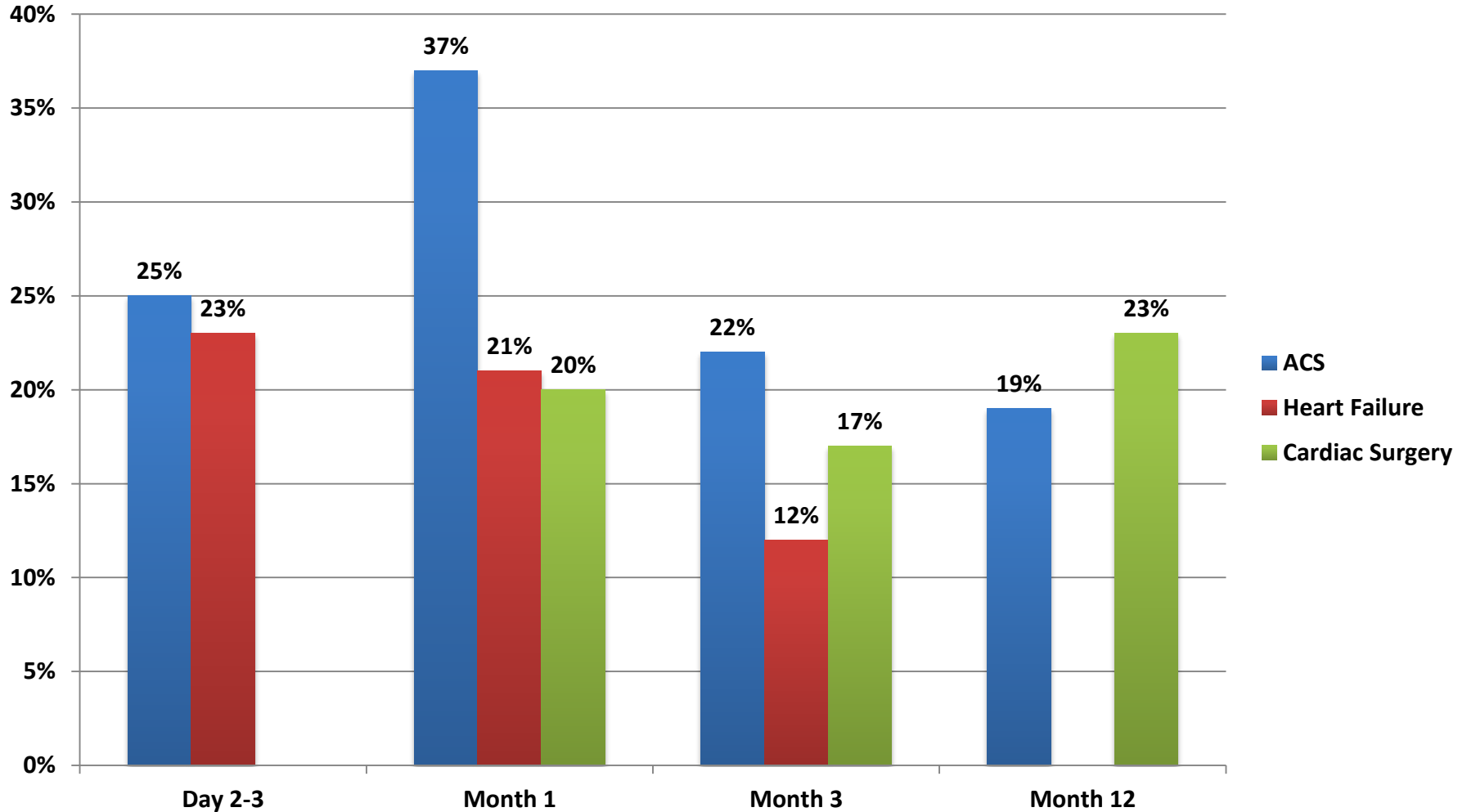


Physical Activity



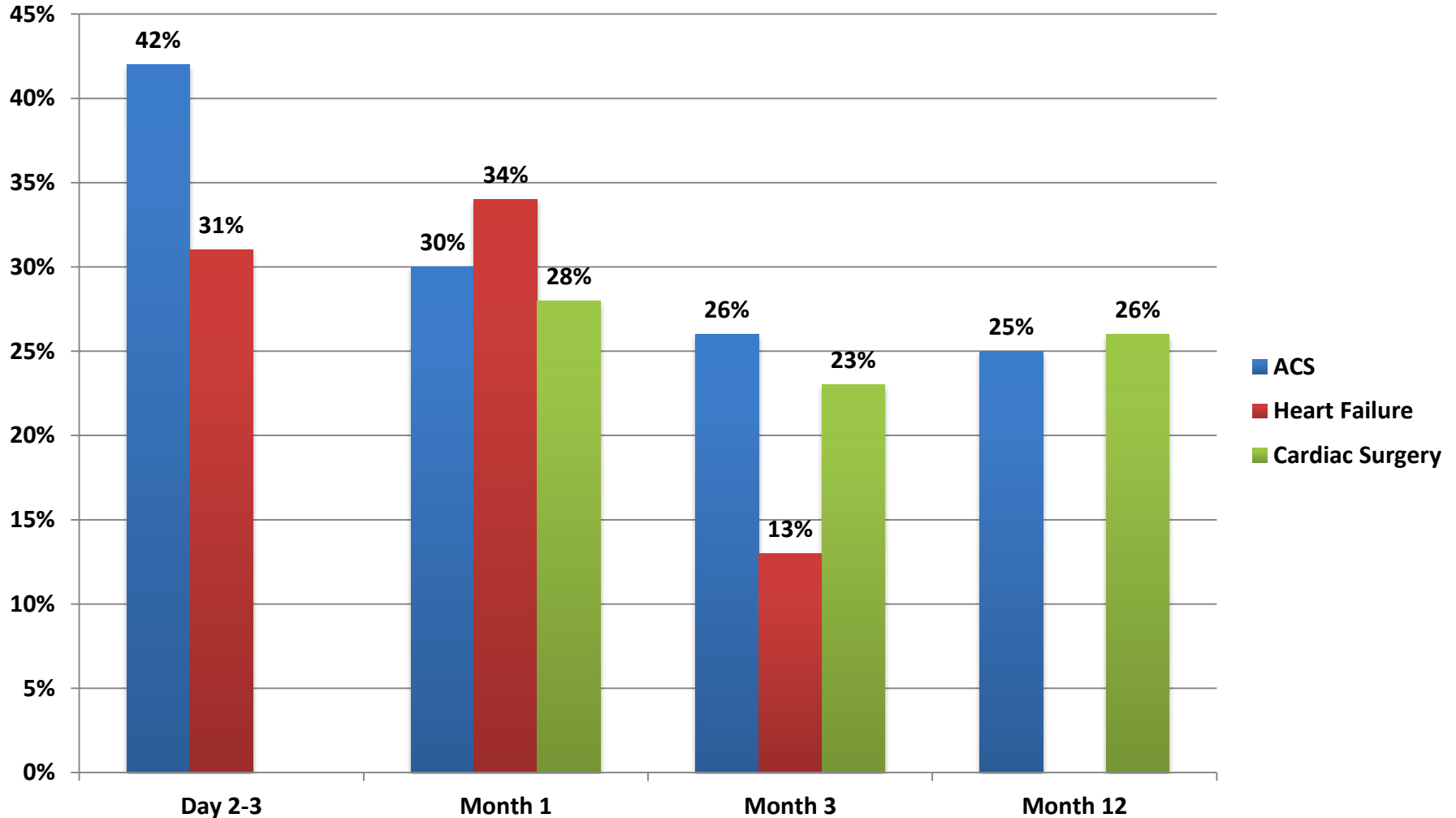


Hypoglycemia





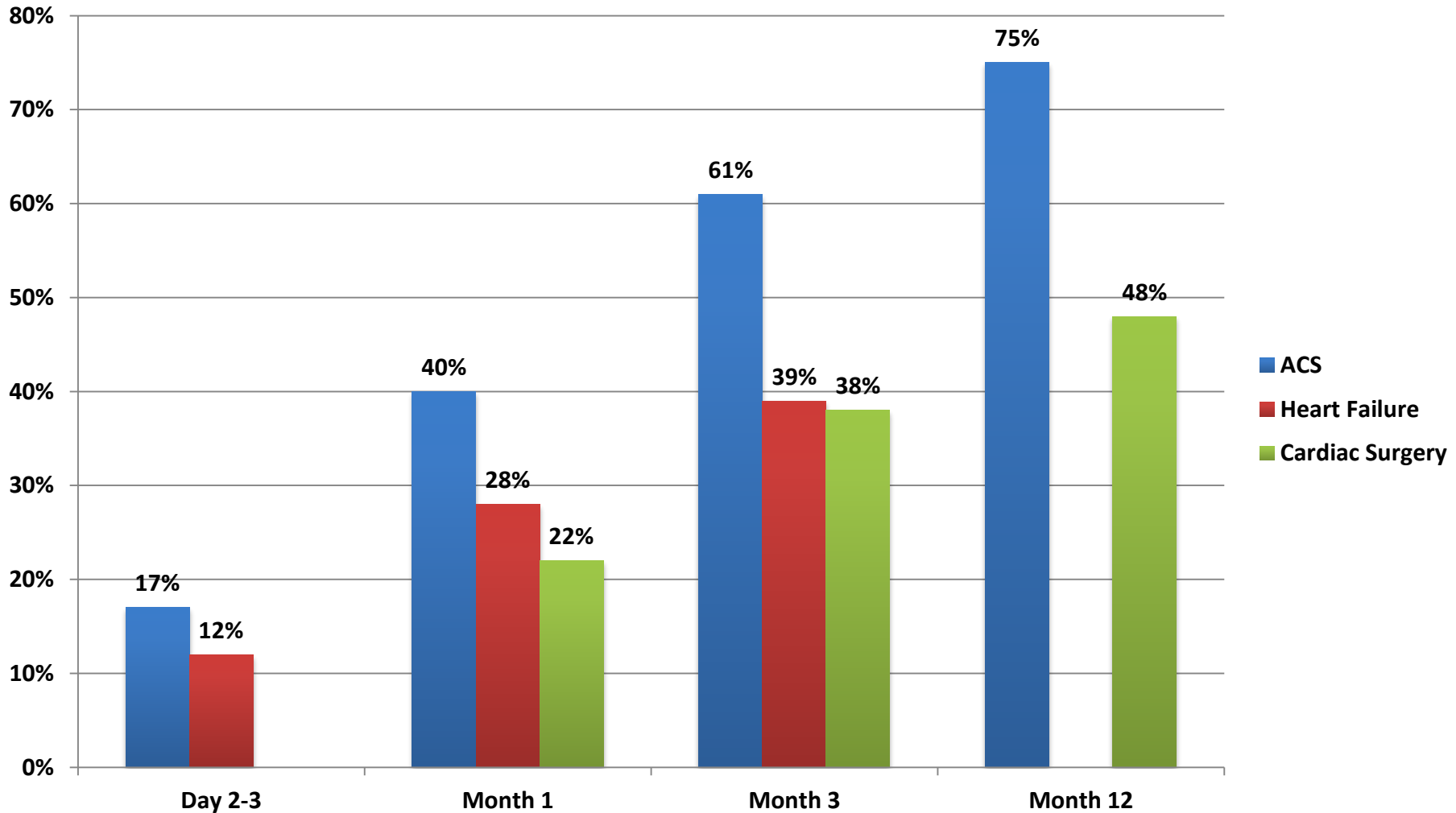
Hypoglycemia Handout





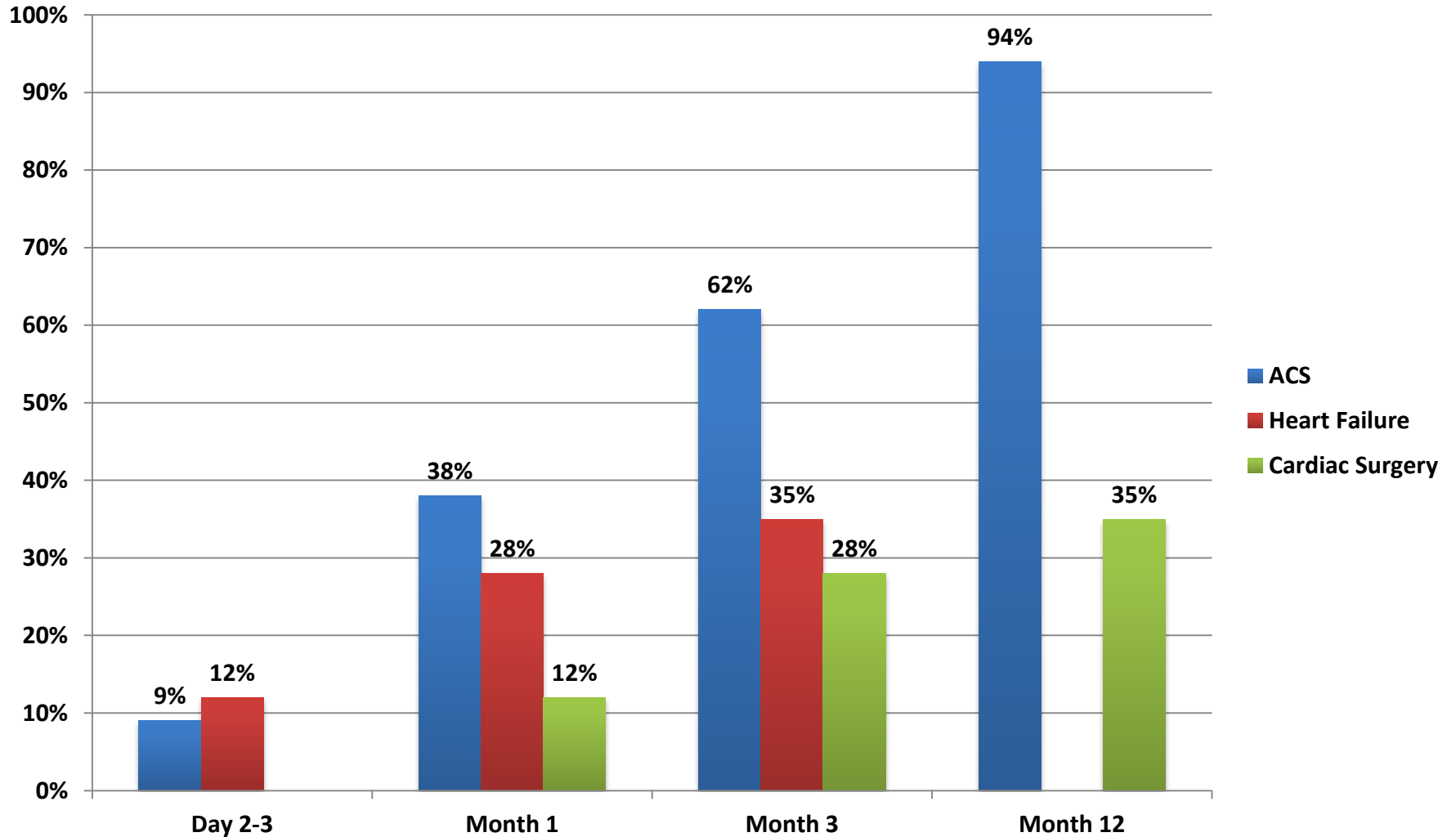
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Attendance at Community Diabetes Education



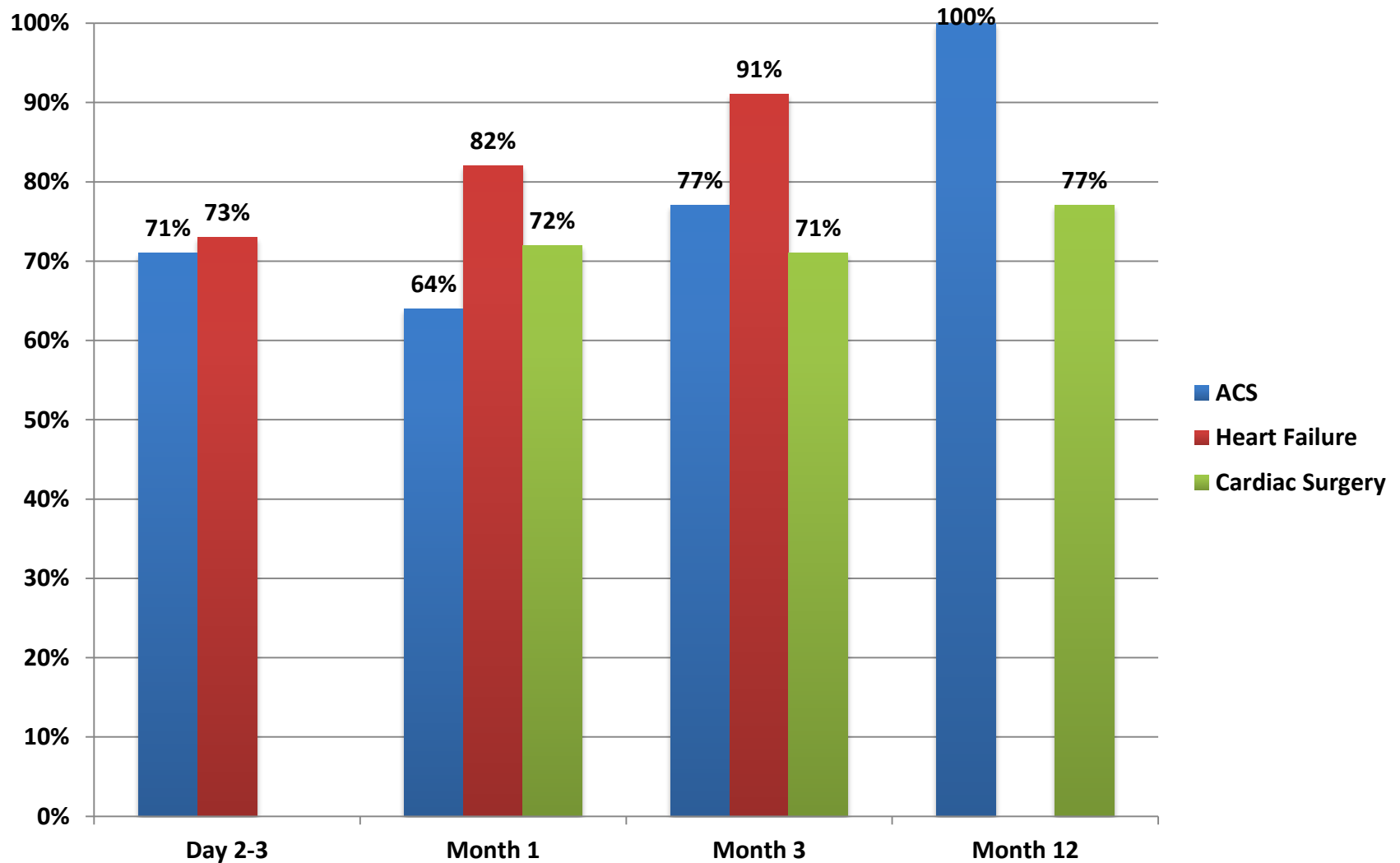


Endocrinologist Visit



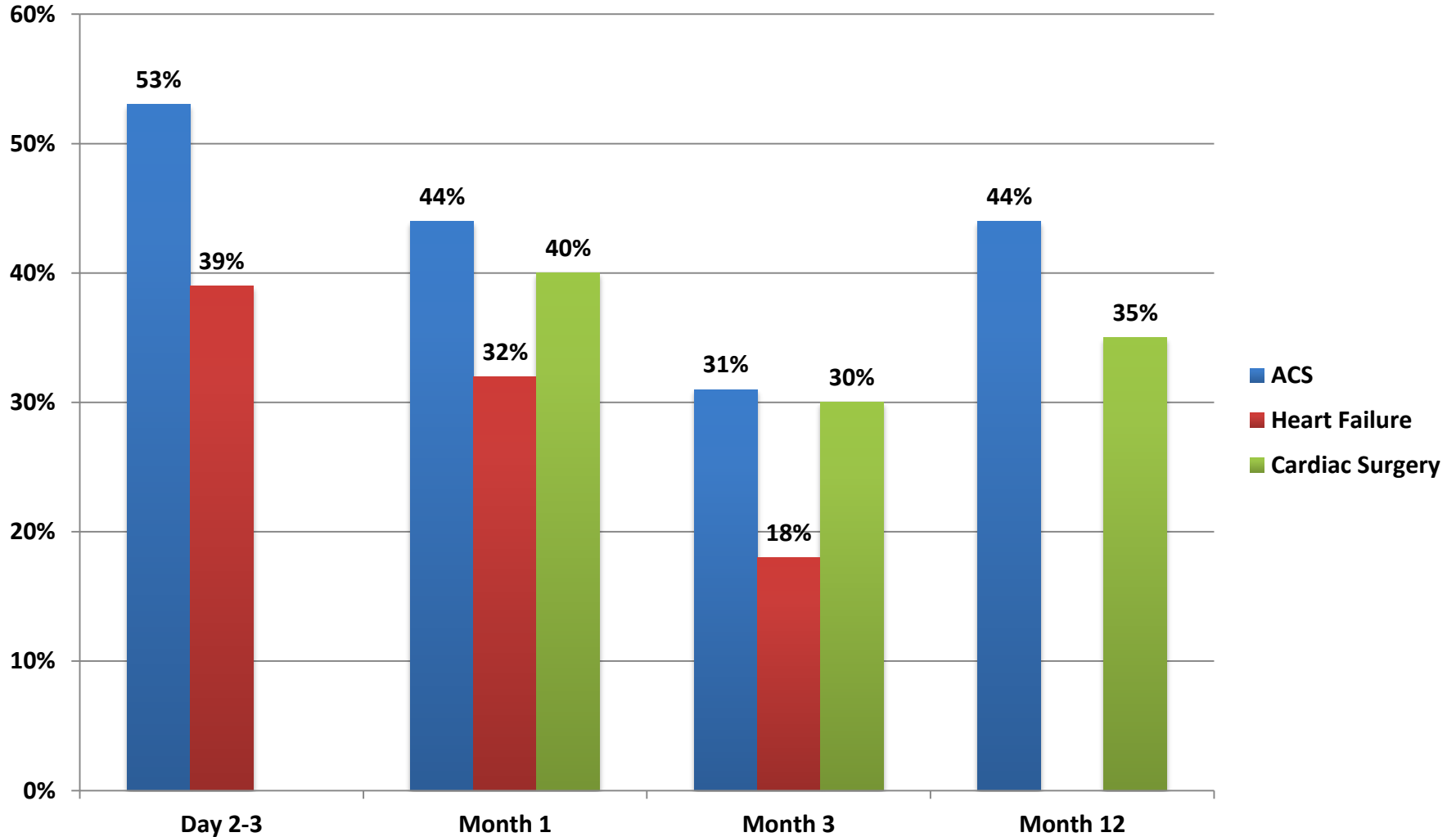


Annual Foot Screening



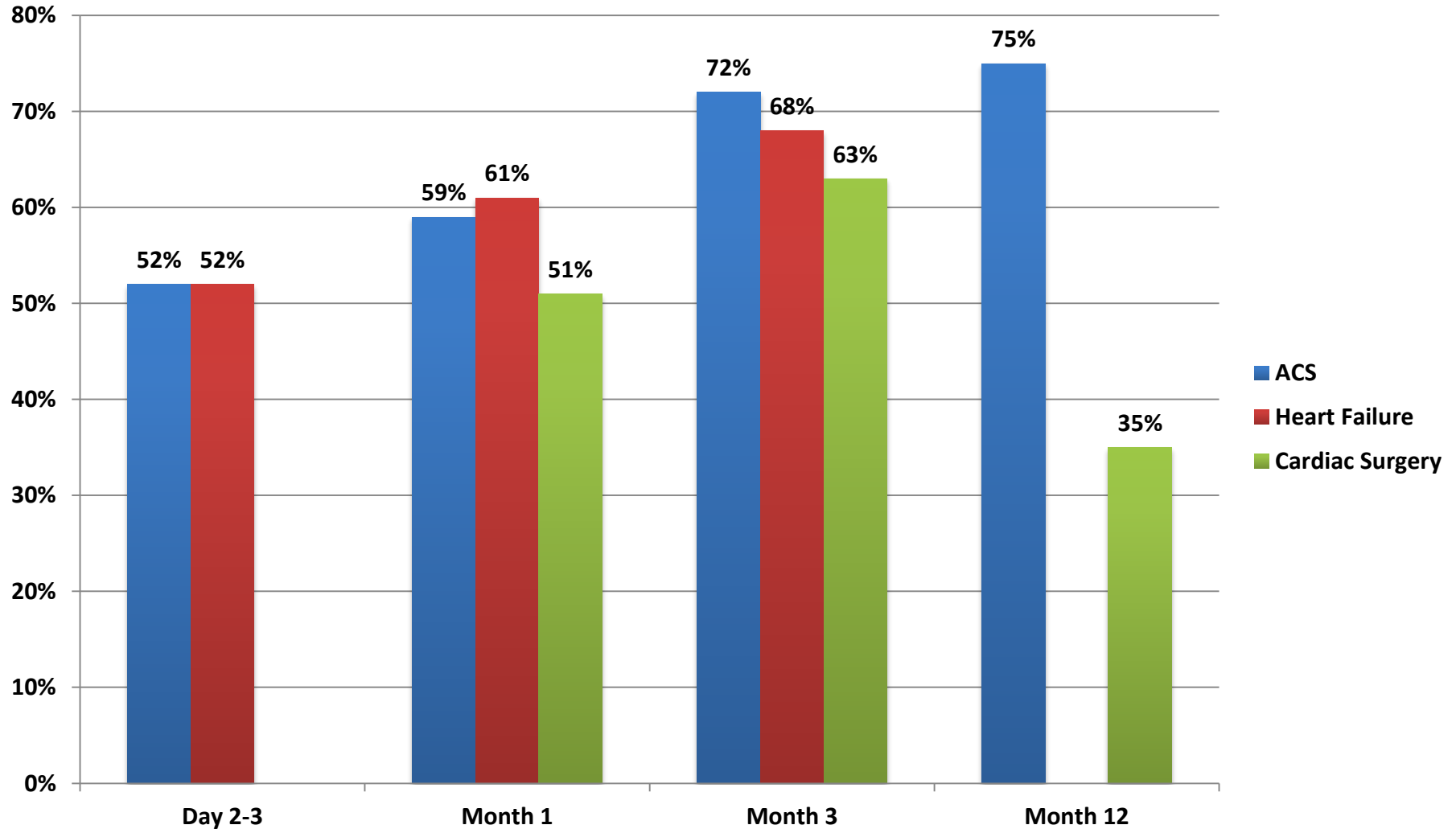


Foot Care Handout



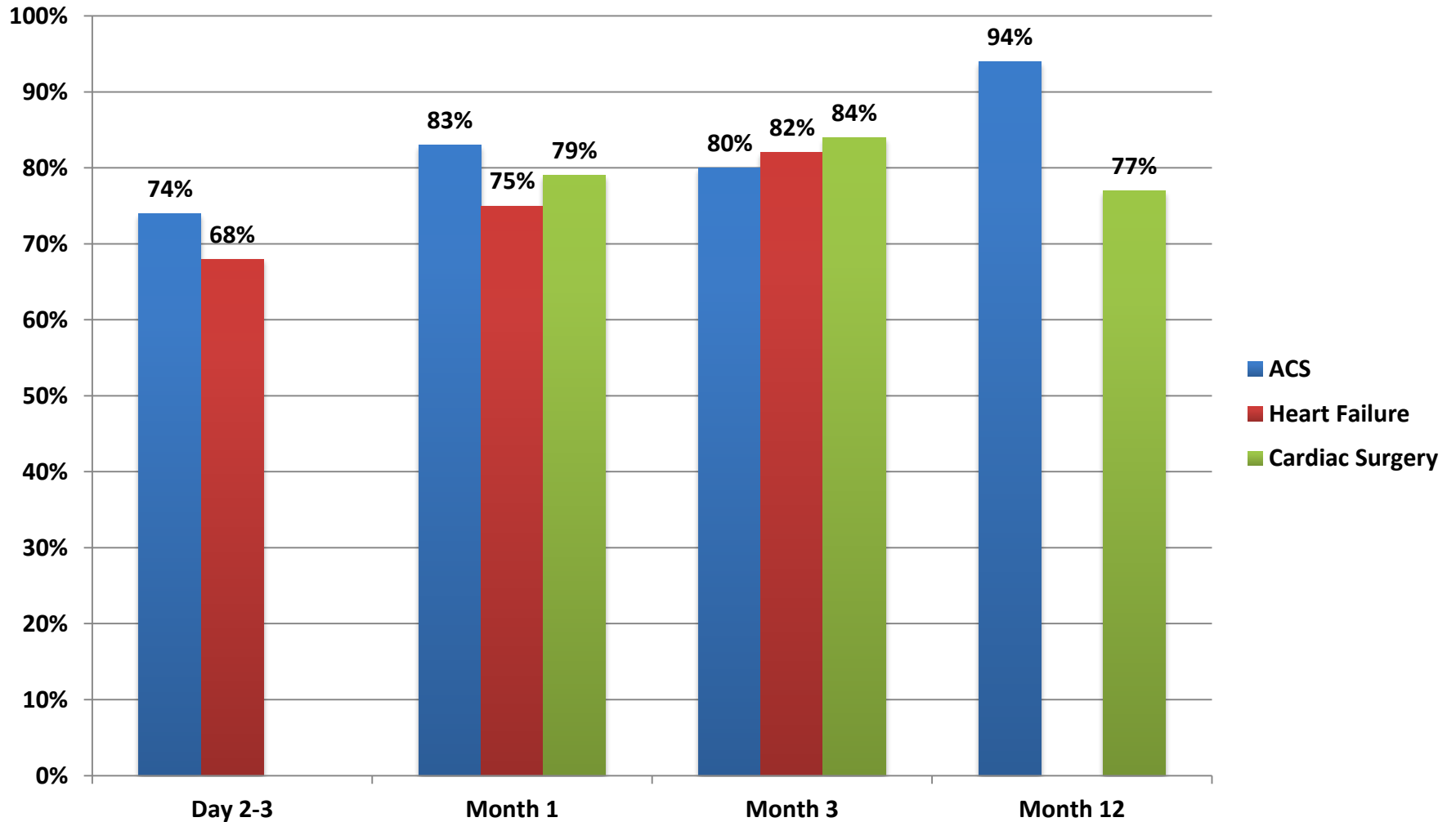


Annual Retinal Screening





Evaluation: Automated Calls Helpful?





Conclusions

- **HgbA1c measured 1 yr out in clinic, mean 7.3%**
 - **Data inputted correctly**
 - **Burden of getting all of the flagged calls answered in a timely fashion**
 - **Need to look at some of the wording of our questions**
 - **Given the number of prediabetes, plan to add questions for that population group and track prevention of diabetes**
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Thank you

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