

# Australian National Diabetes Audit

## Australian Quality Self-Management Audit 2016

Anthony Pease and Sophia Zoungas



# Overview

1. Background and aims of ANDA-AQSMA 2016
2. Methodology
3. Strengths and limitations
4. Results
  - Glycaemic control
  - Medications & monitoring
  - General health maintenance & self care practices
  - Health care utilisation
  - Self assessment of mental health / quality of life
5. Summary

# Background

- ANDA is a well-established annual quality improvement activity

## **Alternating audit:**

- Australian Quality Clinical Audit, AQCA
  - Clinical indicators
- **Australian Quality Self-Management Audit, AQSMA**
  - Self-management indicators

# Background

## **The National Association of Diabetes Centres (NADC)**

- National collective of diabetes centres.
- Establishes and promotes effective health care practice.
- Aims to achieve better outcomes for people with diabetes.
- NADC champions ANDA collection as part of quality assurance and benchmarking.

## **Key strategies:**

- Development of standards of care and quality review initiatives.
- Information provision, training and support.

# Aims

## Overview

Provide an overview of the clinical status of people with diabetes who attend services in diabetes care around Australia

## Comparison

Provide current data which enables comparisons to data from previous years

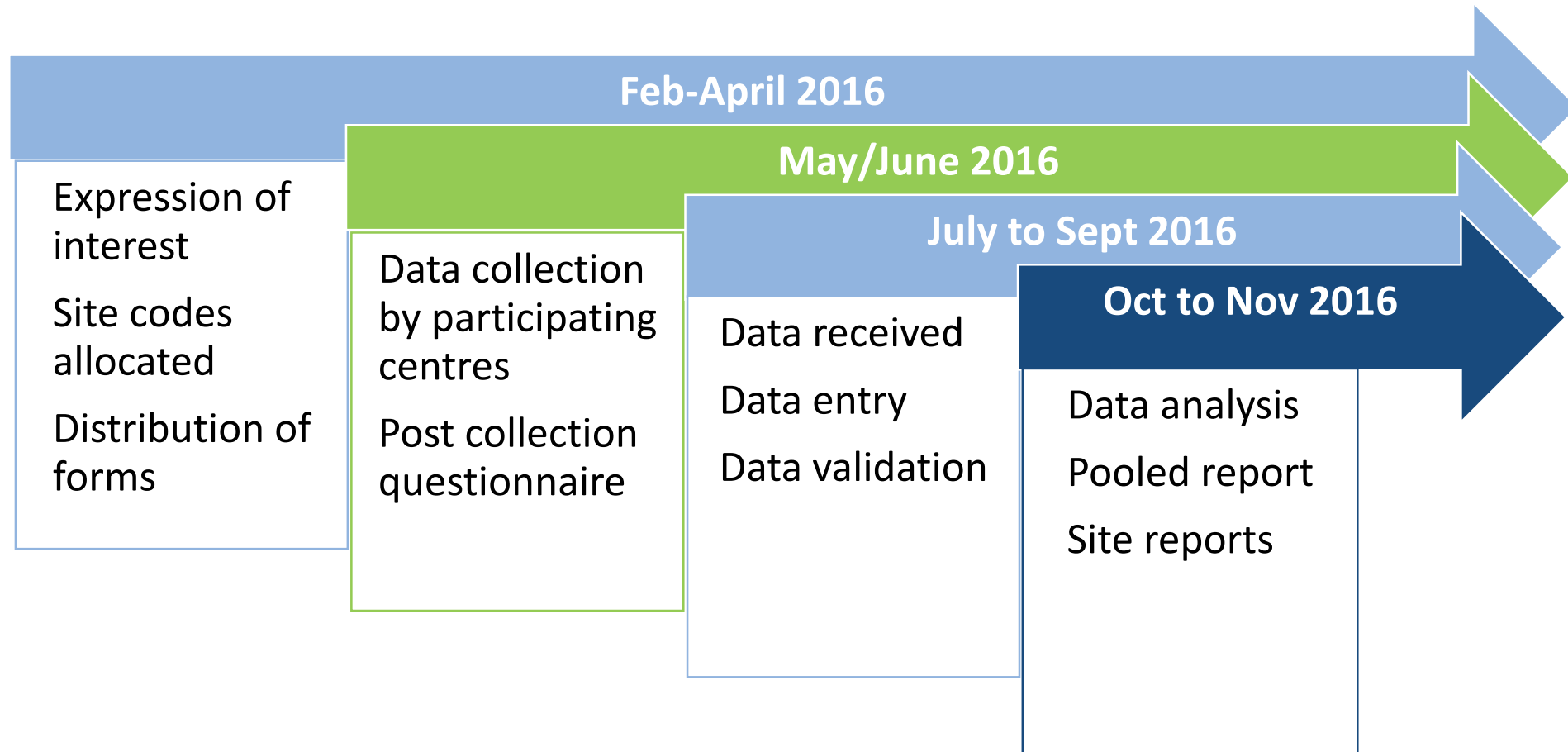
## Benchmarking

Allow participating diabetes centres to evaluate their individual site data against peers

## Outcomes

Enable centres to identify and implement mechanisms to improve outcomes for their patients

# Methodology – Timeline



# Dataset

## Derivation:

- National Diabetes Outcomes Quality Review Initiative (NDOQRIN) dataset
- Outcome data items have standardised definitions
- Has been promulgated for collection in all clinical practice settings

## Enhancement/addition of data fields:

- Past smoker cessation method from single Yes/No to **'tick all that applies'**
- A change in wording 'Do you have difficulties following your prescribed diet?' to 'Do you have difficulties following your recommended diet?'



17780

# ANDA-AQSMA 2016 Australian National Diabetes Audit - Australian Quality Self Management Audit



Section 1. Patient Demographics										
Medical Record No.					Centre ID			Site Staff Identifier		
1.1 Date of birth	dd / mm / yyyy				1.2 Sex	<input type="checkbox"/> Male <input type="checkbox"/> Female <i>if FEMALE</i> → 1.2.1 Currently pregnant <input type="checkbox"/> No <input type="checkbox"/> Yes				
1.3 Date of visit	dd / mm / 2016				1.4 Initial visit	<input type="checkbox"/> No <input type="checkbox"/> Yes		1.5 Aboriginal/Torres Strait Islander <input type="checkbox"/> No <input type="checkbox"/> Yes		
1.6 Interpreter required	<input type="checkbox"/> No <input type="checkbox"/> Yes				1.7 DVA patient	<input type="checkbox"/> No <input type="checkbox"/> Yes		1.8 NDSS member <input type="checkbox"/> No <input type="checkbox"/> Yes		
1.9 Country of birth										
Section 2. Diabetes Type & Management & Lifestyle Issues										
2.1 Year of diagnosis	yyyy				2.2 Type of diabetes	<input type="checkbox"/> Type 1 <input type="checkbox"/> Type 2 <input type="checkbox"/> GDM <input type="checkbox"/> Don't Know <input type="checkbox"/> Other				
2.3 Management method	<input type="checkbox"/> Diet Only <input type="checkbox"/> Injectables <input type="checkbox"/> Insulin+Tablets+Injectables <input type="checkbox"/> Insulin <i>if INSULIN</i> → 2.3.1 How long ago was insulin started? <input type="checkbox"/> <1yr <input type="checkbox"/> 1-5yrs <input type="checkbox"/> >5yrs <input type="checkbox"/> Tablets <input type="checkbox"/> Insulin+Tablets <input type="checkbox"/> Nil									
2.4 Physical activity sufficiency	<input type="checkbox"/> Sufficient <input type="checkbox"/> Insufficient <input type="checkbox"/> Sedentary									
2.5 Have you had a flu vaccination in the last 12 months? <input type="checkbox"/> No <input type="checkbox"/> Yes										
2.6 Have you had a pneumococcal vaccination in the last 12 months? <input type="checkbox"/> No <input type="checkbox"/> Yes										
2.7 Smoking status <input type="checkbox"/> Current smoker <i>if CURRENT</i> → 2.7.1 Have you tried to stop smoking? <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Past smoker <i>if PAST</i> → 2.7.2 Which of the following methods did you use? <input type="checkbox"/> Never smoked <input type="checkbox"/> Just stopped - no intervention <input type="checkbox"/> Nicotine replacement <input type="checkbox"/> Acupuncture <input type="checkbox"/> Medication <input type="checkbox"/> Hypnosis <input type="checkbox"/> Other										
2.8 Glycated Hb result	mmol/mol									
Section 3. Medication Use										
3.1 Do you ever forget to take your medications?	No Yes									
<i>if YES</i> → 3.1.1 How many times per week?										
3.2 Do you usually take all your medications?	No Yes									
3.3 Do you sometimes stop taking your medications when you feel better?	No Yes									
3.4 Do you sometimes stop taking your medications when you feel worse?	No Yes									
3.5 Are you using a complementary therapy or dietary supplement or over the counter (OTC) Rx?	No Yes									
<i>if YES</i> → 3.5.1 Have you told your doctor or educator about using complementary, dietary supplement or OTC Rx?	No Yes									
Section 4. Health Professional Attendances										
Has the patient attended any of the following in the last 12 months?										
4.1 Podiatrist	No Yes		4.6 Diabetes Specialist	No Yes						
4.2 Diabetes Educator	No Yes		4.7 Ophthalmologist	No Yes						
4.3 Dietitian	No Yes		4.8 Optometrist	No Yes						
4.4 Psychologist	No Yes		4.9 Dentist	No Yes						
4.5 Social Worker	No Yes		4.10 Exercise Physiologist	No Yes						
Section 5A. BCD										
Over the last couple of weeks has the patient been:										
5A.1 Having restless or disturbed nights	No Yes									
5A.2 Feeling unhappy or depressed	No Yes									
5A.3 Feeling unable to overcome difficulties	No Yes									
5A.4 Dissatisfied with their way of doing things	No Yes									
Section 6B. Treatment										
6B.1 Is the patient taking antidepressants	No Yes									
6B.2 Psych. treatment/counselling - past	No Yes									
6B.3 Psych. treatment/counselling - now	No Yes									
Section 7. Quality of Life Assessment										
Part A: Self-assessment of health status					Part B: Diabetes Distress Scale 17					
7.1 Own health state rating (0-100)	0-100				7.4 DDS 17 Questionnaire done	<input type="checkbox"/> No <input type="checkbox"/> Yes				
7.2 Screening Scale Q1					<i>if YES</i> → complete 7.4.1 - 7.4.5 below:	7.4.3 Physician-related distress (B)				
7.3 Screening Scale Q2	<input type="checkbox"/> } <i>if Q1 or Q2 is ≥ 3, complete Part B</i>				7.4.1 Total DDS 17 Score			7.4.4 Regimen-related distress (C)		
					7.4.2 Emotional Burden (A)			7.4.5 Interpersonal distress (D)		

ANDA-AQSMA 2016 Data Collection Form Version 1.1

Patient demographics, NDSS member

Diabetes Type & Management

Physical activity, Vaccination, Smoking

Medication use, Health professional attendances

Self-management, Depression

QOL, DDS 17



# Handling of Data

- Unique codes allocated by the secretariat
- Double blind data collection
- Coordinated by the ANDA secretariat based at Monash
- All contact with participating centres was made via the secretariat

# Strengths and Limitations

## Strengths:

- National database
- Increasing numbers of individual participants from each centre
- Same time each year – good for assessing the stability of cohort

## Limitations:

- Data collection is not completely random
- Cross-sectional without longitudinal follow up
- Missing data

# Australian National Diabetes Audit

## Australian Quality Self-Management Audit 2016

### FINDINGS and RESULTS



# Overview

Demographics

Glycaemic Control

Medications & Monitoring

General Health Maintenance

Self Care Practices

Health Care Utilisation

Mental Health

# Overview

Demographics

Glycaemic Control

Medications & Monitoring

General Health Maintenance

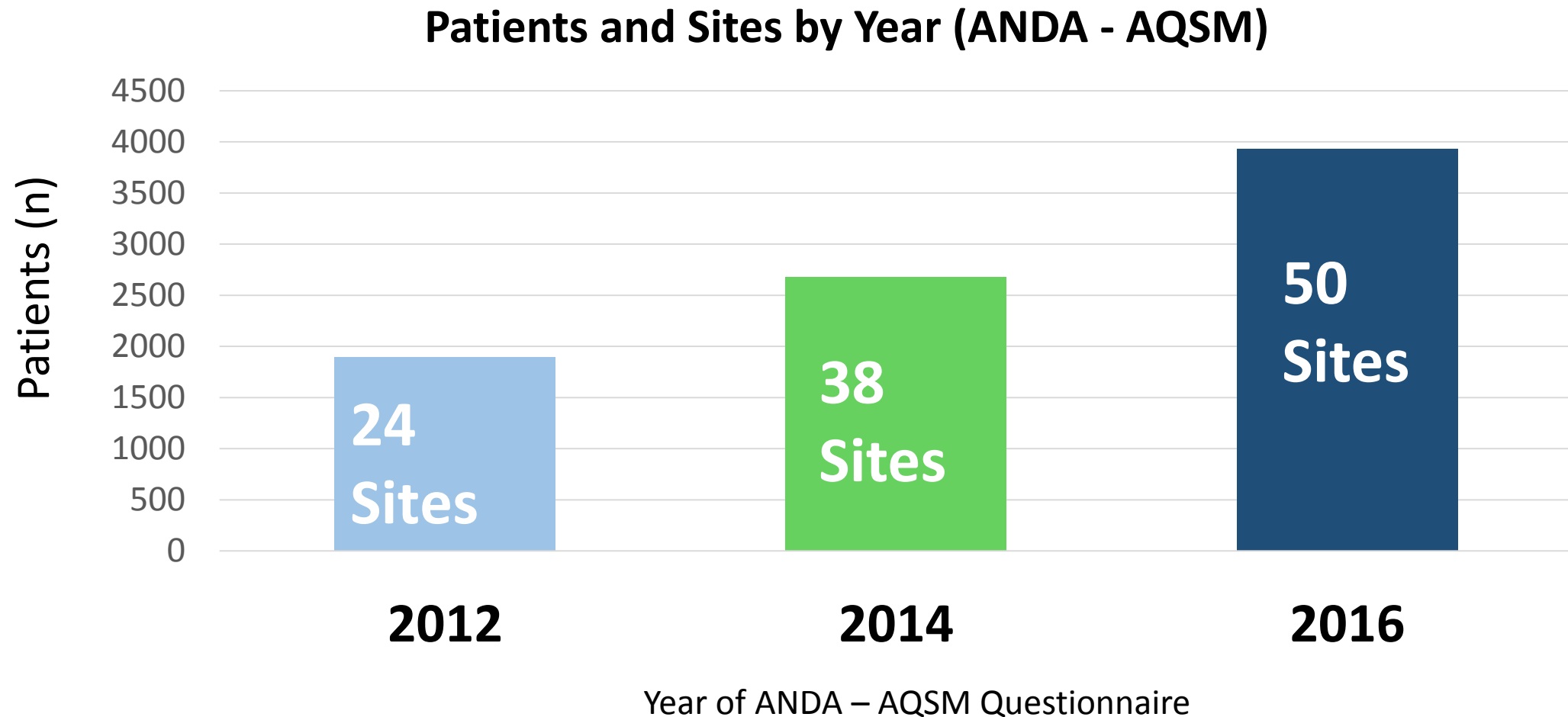
Self Care Practices

Health Care Utilisation

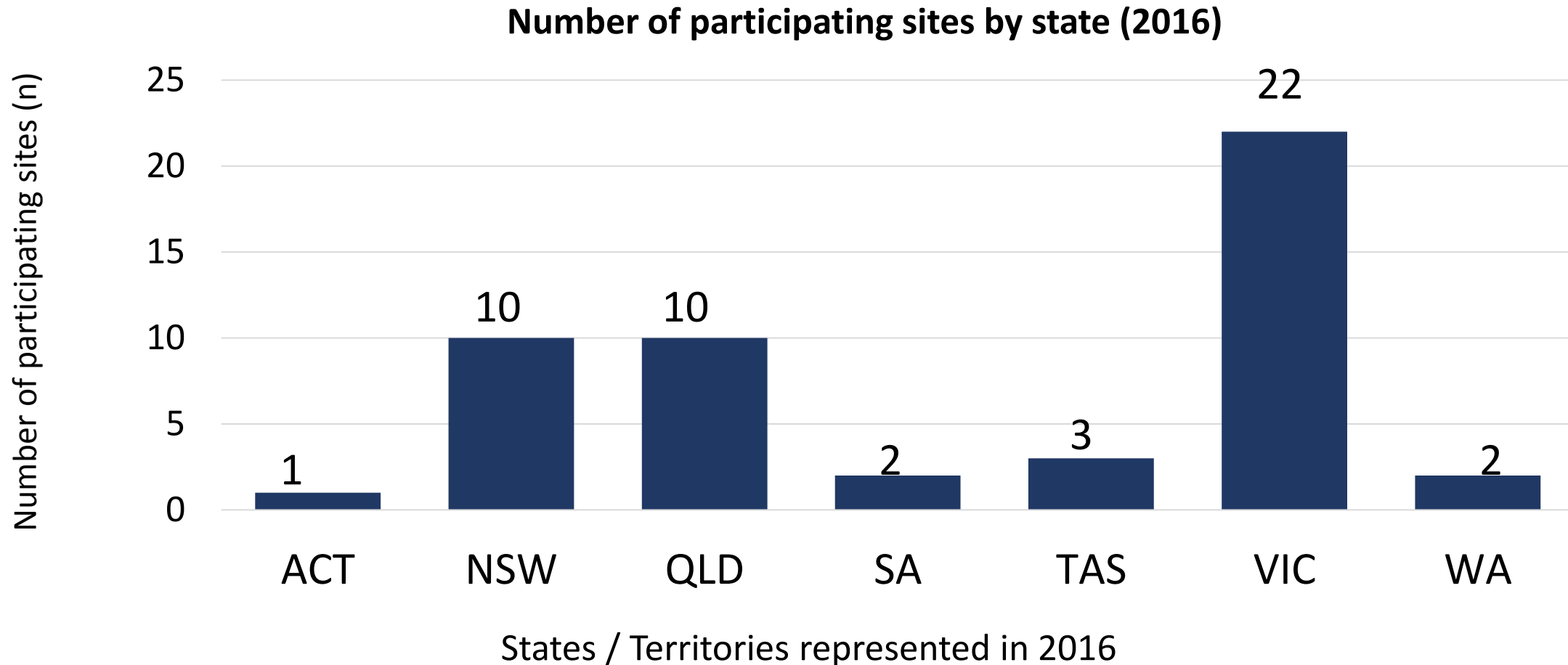
Mental Health

Number of participants  
Patient characteristics

# Study Sites and Patients



# State Breakdown



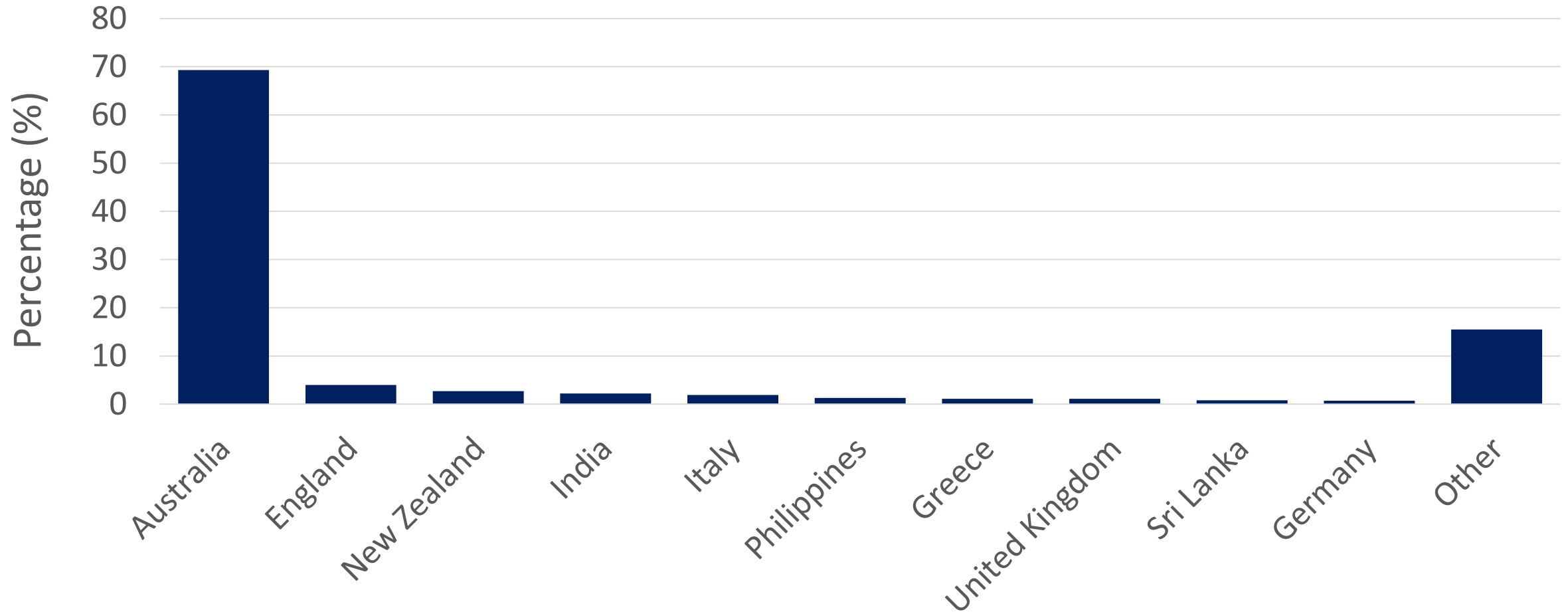
# Demographics



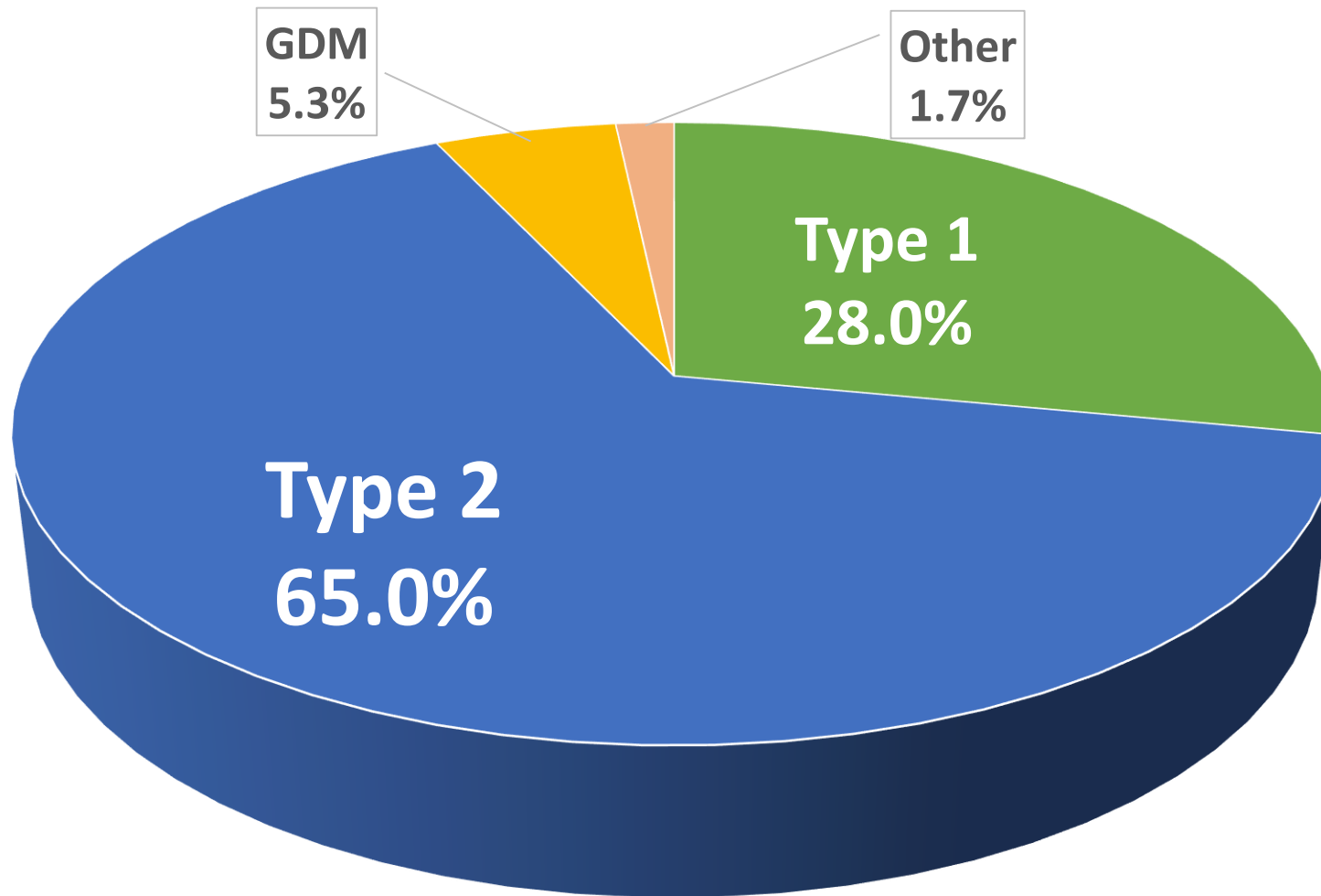
Patient Characteristics	2012	2014	2016
N	1892	2681	3930
Age mean $\pm$ SD (years)	54.0 $\pm$ 16.8	55.0 $\pm$ 17.5	55.3 $\pm$ 17.4
Gender (%male)	47.1	50.7	49.7
Duration of Diabetes mean $\pm$ SD (years)	10.1 $\pm$ 10.4	12.3 $\pm$ 11.3	13.0 $\pm$ 11.7
Identifying as Aboriginal or Torres Strait Islander (%)	9.7	4.0	4.5
Interpreter required(%)	3.5	4.4	3.9
Pregnant (%)	34.1	28.1	29.6
Initial visit (%)	27.3	17.0	19.8



# Country of Birth



# Diabetes Type



- Type 1 Diabetes Mellitus
- Type 2 Diabetes Mellitus
- Gestational Diabetes Mellitus
- Other: 'Other' types, 'Don't know', 'Not stated'

# Overview

Demographics

**Glycaemic Control**

Medications & Monitoring

General Health Maintenance

Self Care Practices

Health Care Utilisation

Mental Health

HbA1c  
Glucose lowering agents in T2DM

# Glycaemic Control: HbA1c

- Type 1 Diabetes → HbA1c 8.4%  $\pm$  1.7
- Type 2 Diabetes → HbA1c 8.3%  $\pm$  1.9
- All types → HbA1c 8.3%  $\pm$  1.9

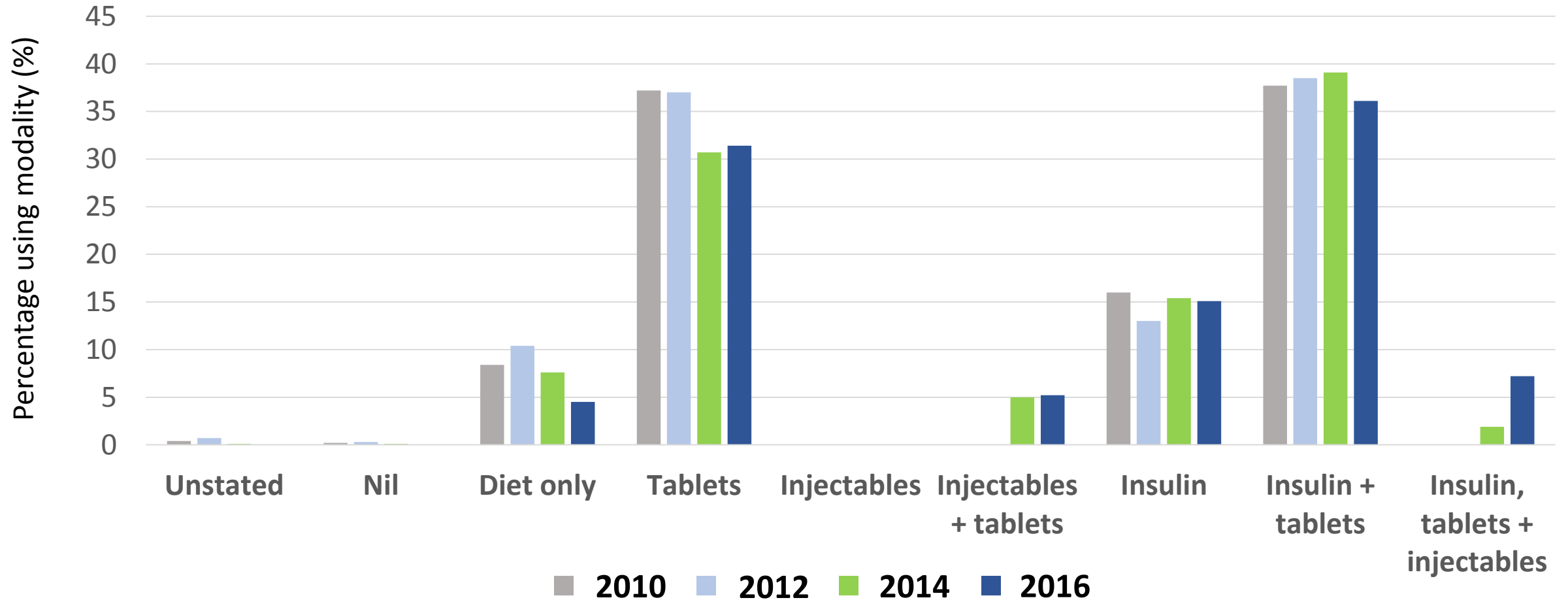
Stable over time:

8.1% in 2010

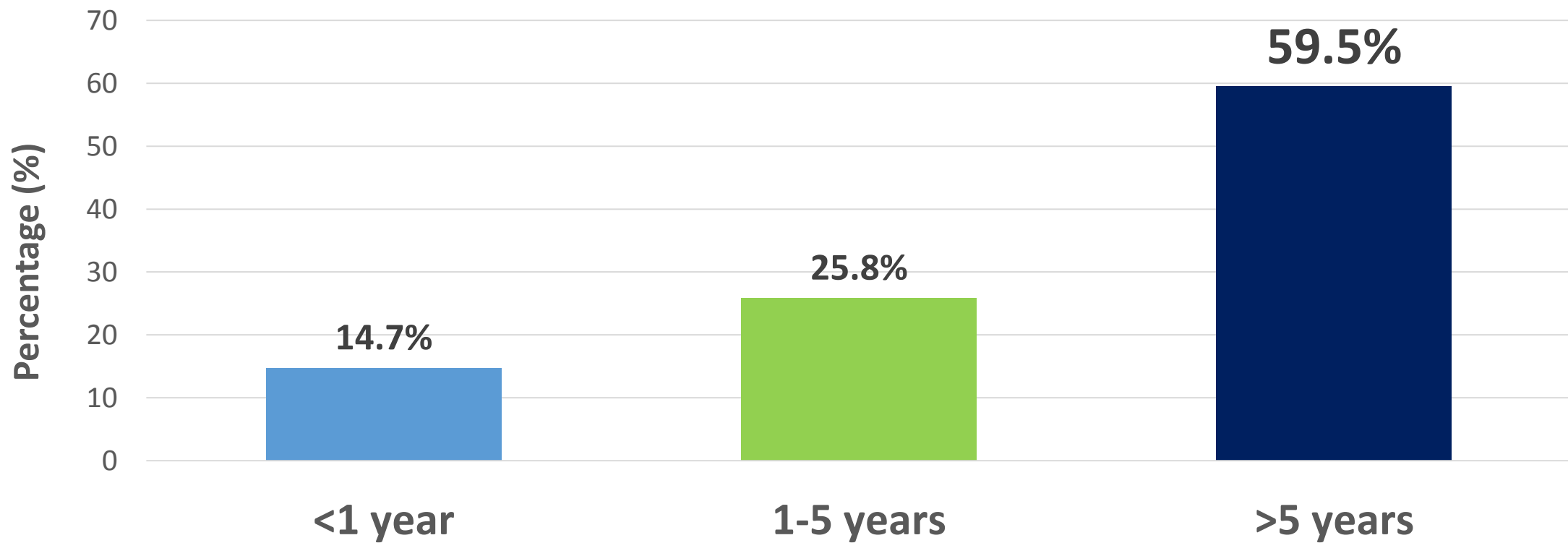
8.3% in 2012

8.2% in 2014

# Treatment Modalities (T2DM)



# Insulin Duration



Duration taking insulin (Categories as reported)

# Overview

Demographics

Glycaemic Control

**Medications & Monitoring**

General Health Maintenance

Self Care Practices

Health Care Utilisation

Mental Health

Administration  
Self monitoring blood glucose levels

# Medications and Monitoring

- Rotating injection sites → 96%
- Taking all their medications → 92%
- Never forget to take their medications → 73%
- Do not test blood glucose levels as directed → 26%
  - Unsure of how often to test → 6%



# Overview

Demographics

Glycaemic Control

Medications & Monitoring

**General Health Maintenance**

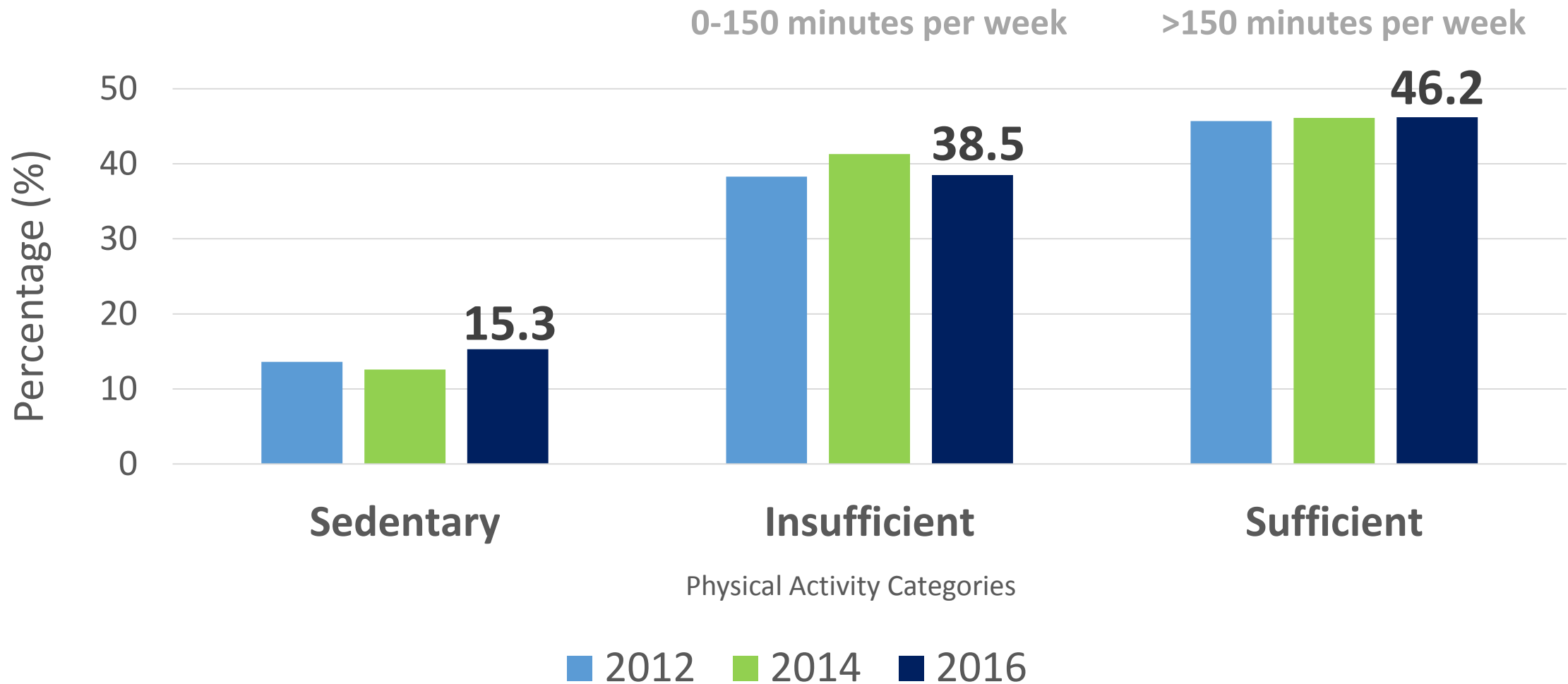
Self Care Practices

Health Care Utilisation

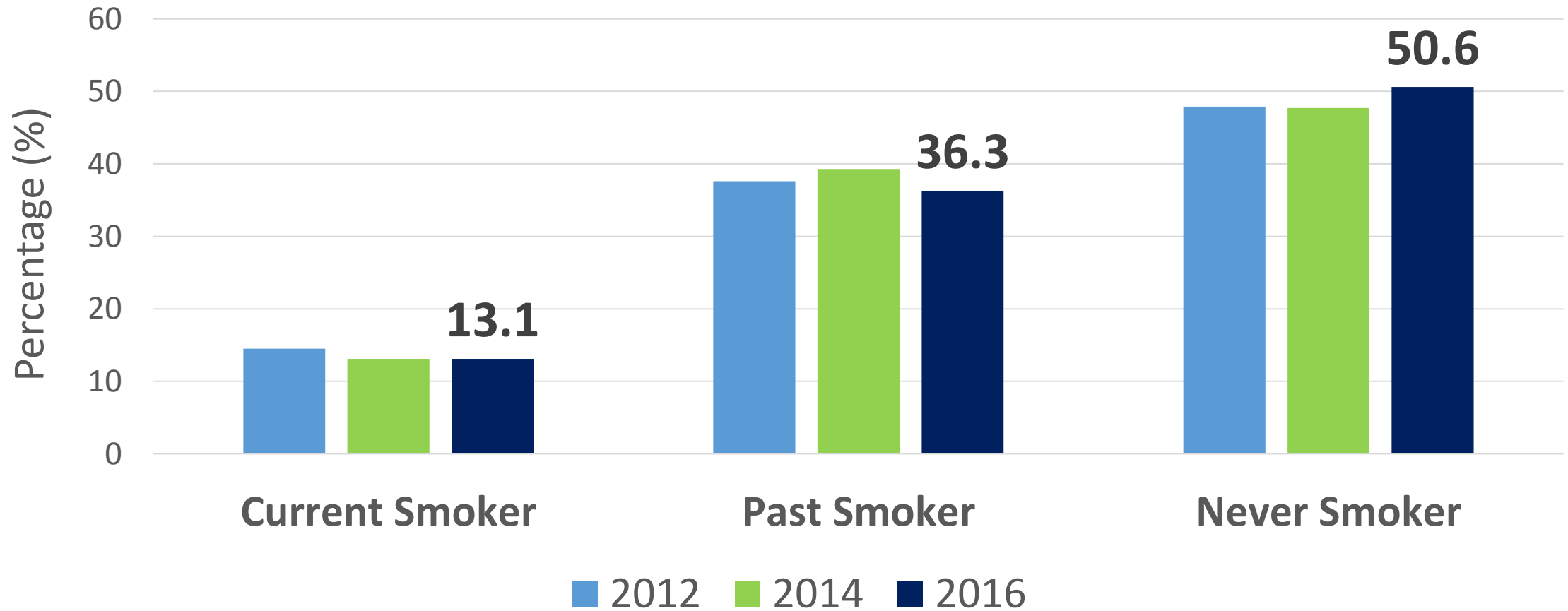
Mental Health

Physical Activity  
Smoking  
Vaccination

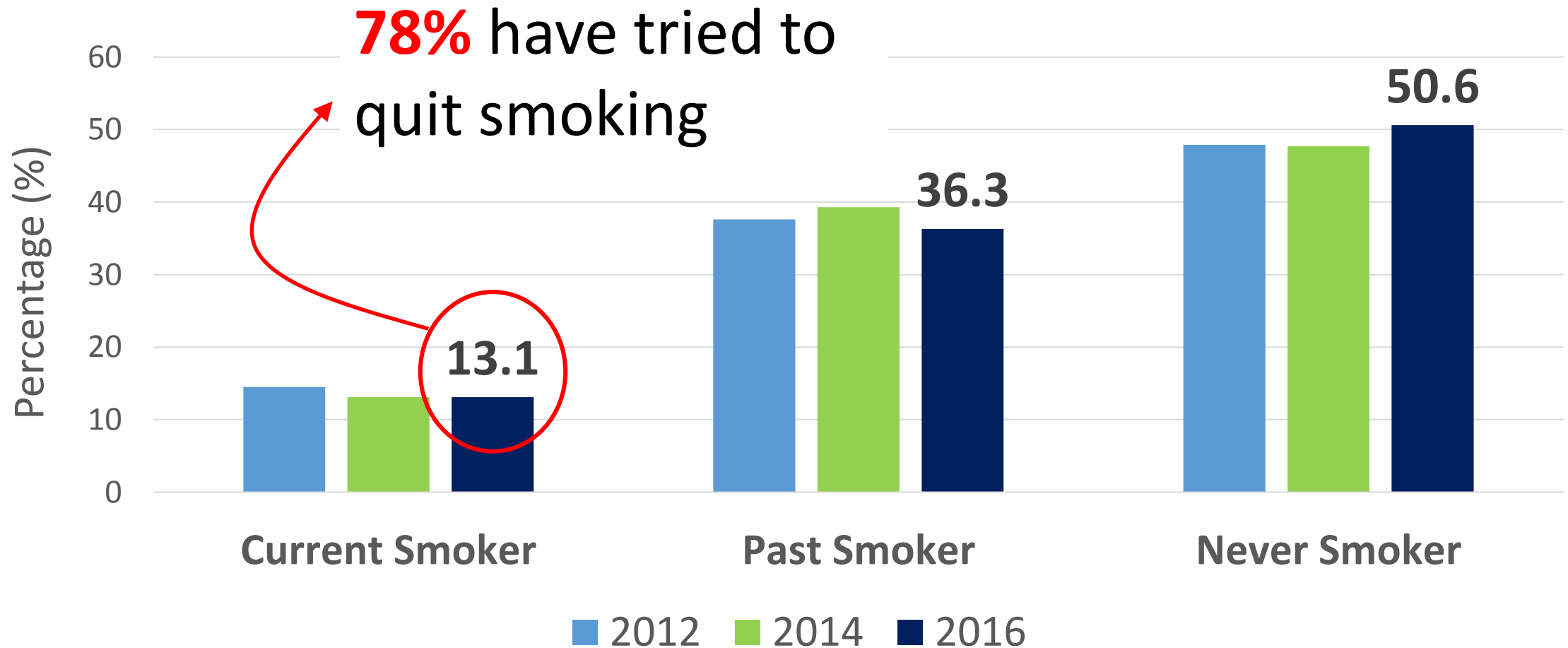
# Physical Activity



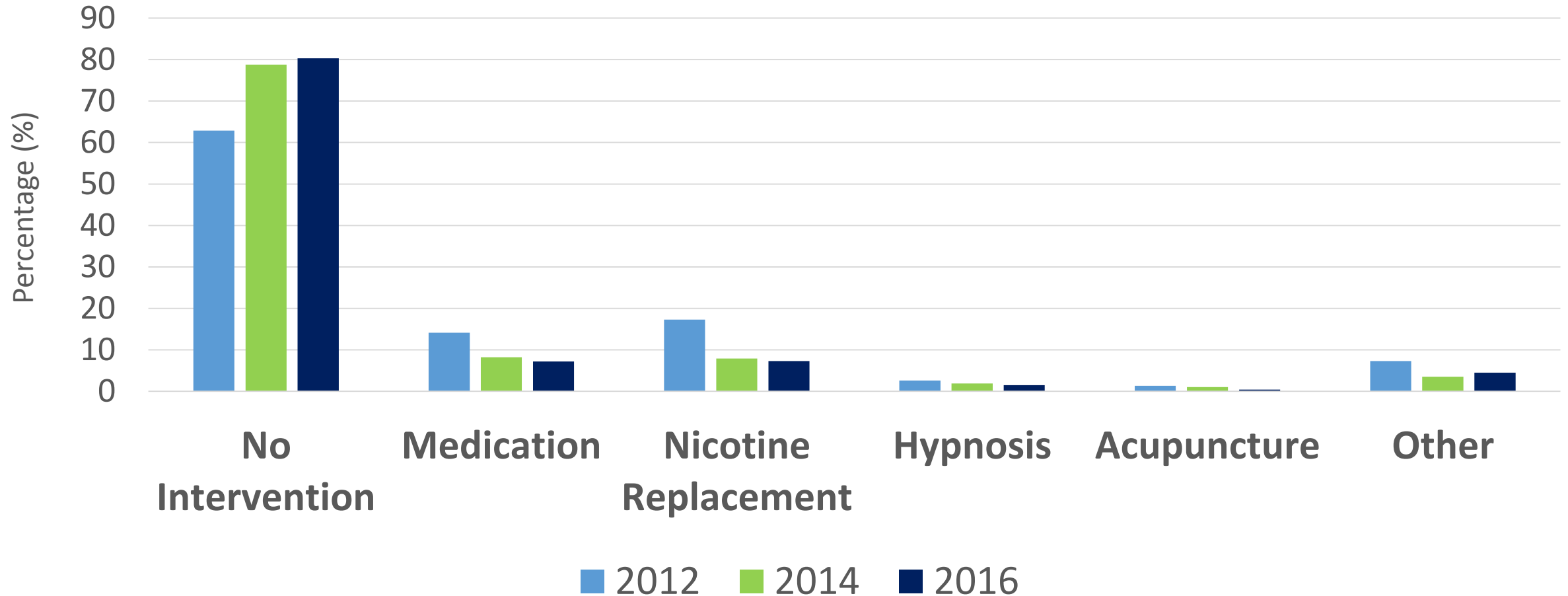
# Smoking Status



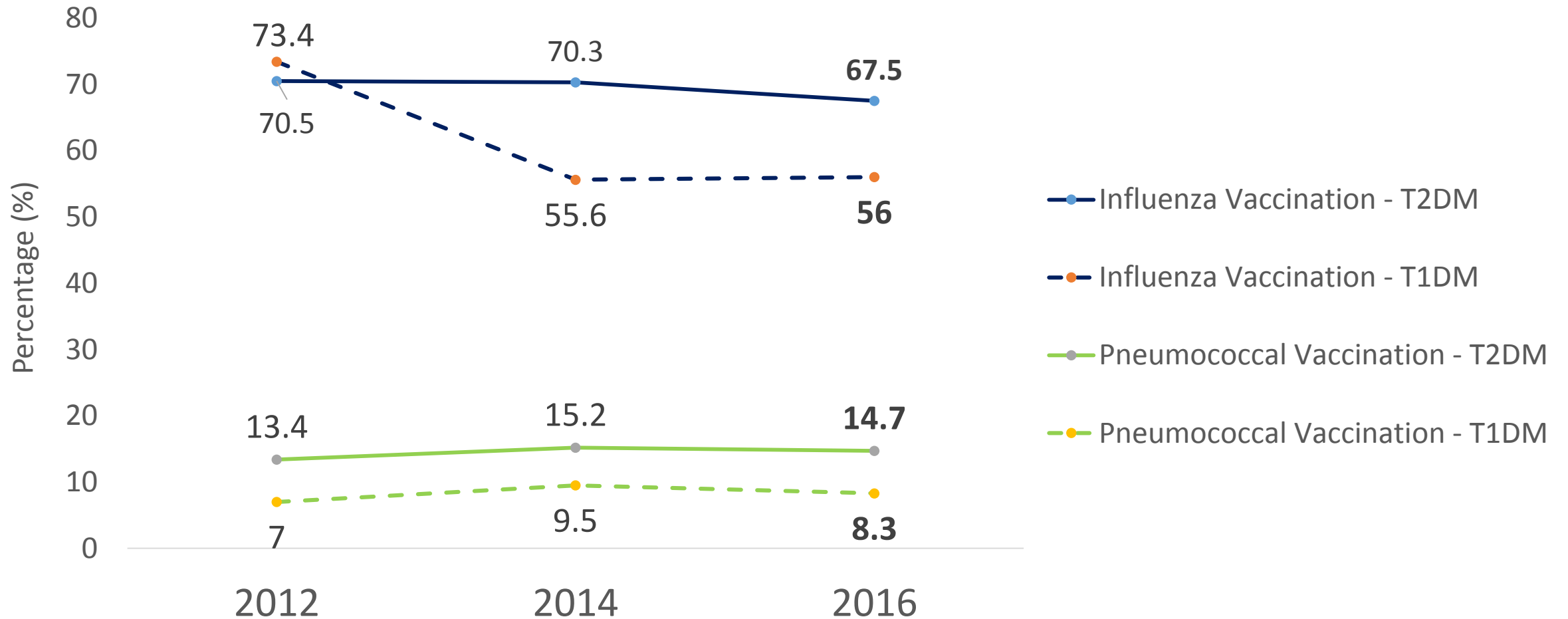
# Smoking Status



# Smoking Cessation Methods (Past Smokers)



# Vaccination Status



# Overview

Demographics

Glycaemic Control

Medications & Monitoring

General Health Maintenance

**Self Care Practices**

Health Care Utilisation

Mental Health

Recommended dietary advice  
Carbohydrate counting

# Dietary Factors

- Difficulties following recommended diet → 36%
  - **Type 1 Diabetes** → **50%**

## Barriers:

- Time to prepare healthy meals → 33.2%
- Costs too much → 30.4%
- I don't know what foods are best → 28.2%

Only half had attended dietitian review in the last year



# Overview

Demographics

Glycaemic Control

Medications & Monitoring

General Health Maintenance

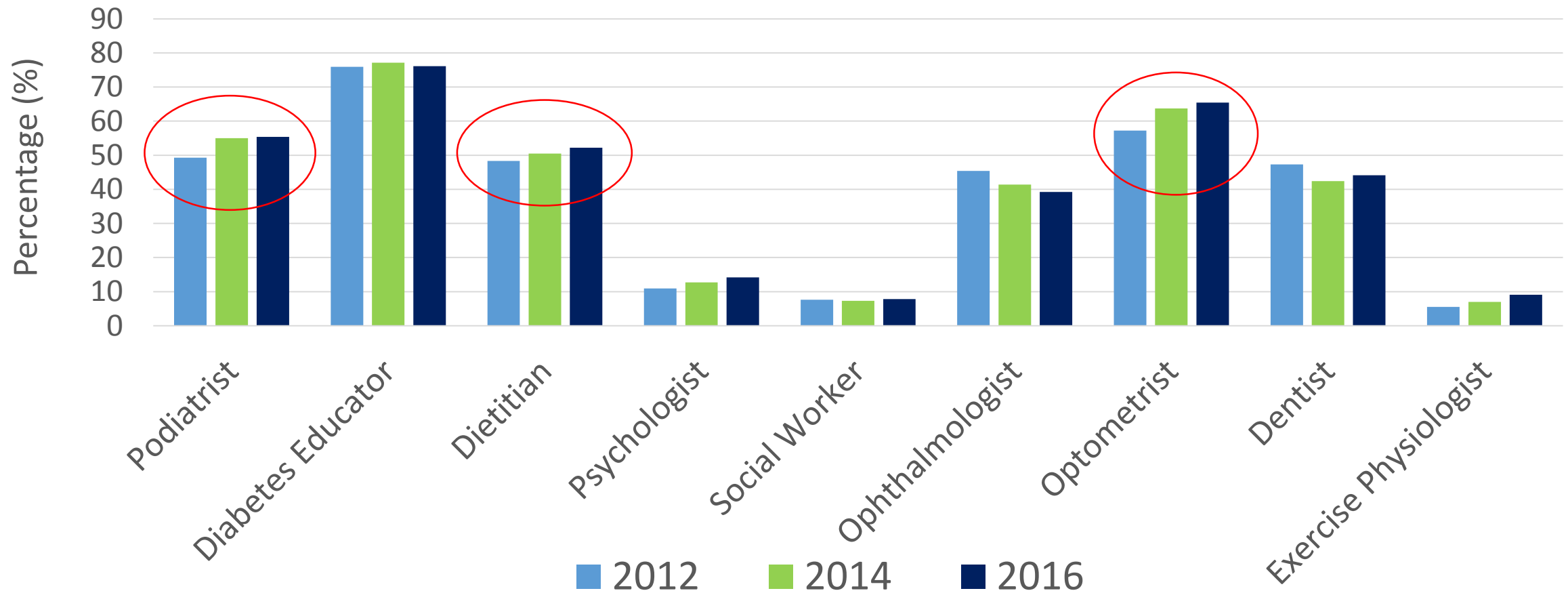
Self Care Practices

**Health Care Utilisation**

Mental Health

Attendance within the last 12 months

# Health Professional Attendance



# Overview

Demographics

Glycaemic Control

Medications & Monitoring

General Health Maintenance

Self Care Practices

Health Care Utilisation

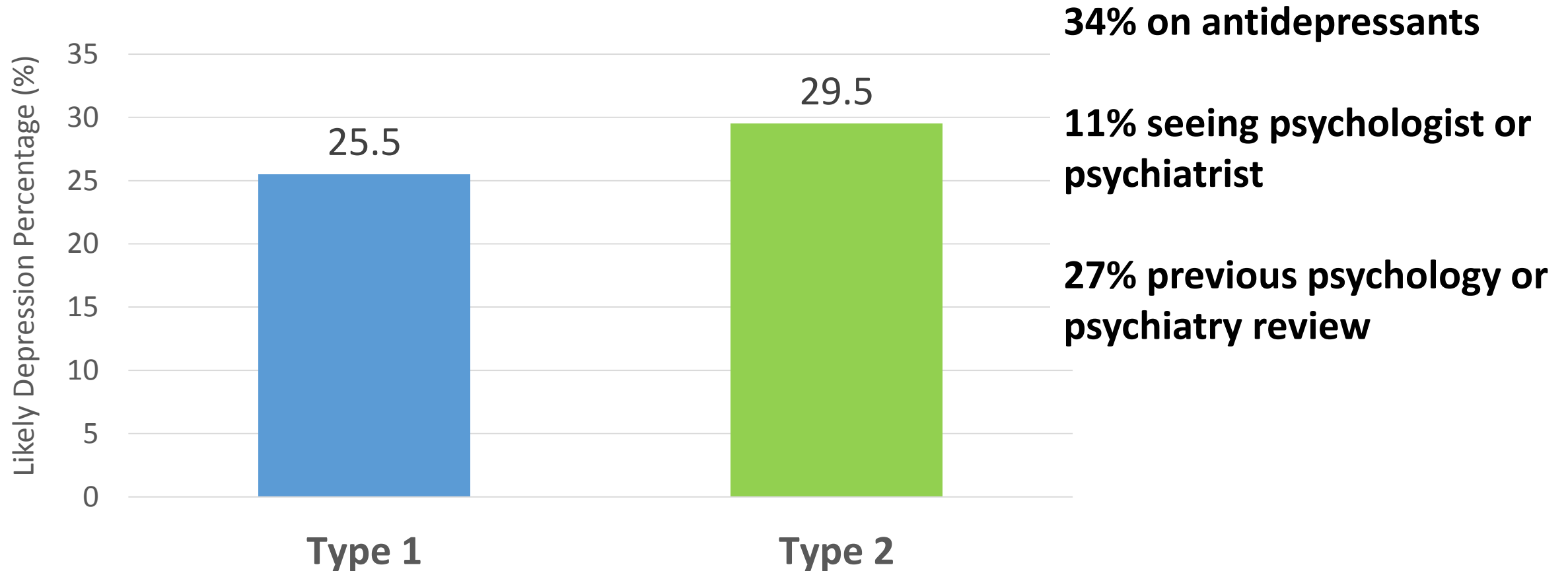
Mental Health

Self assessment  
Depression & Quality of life

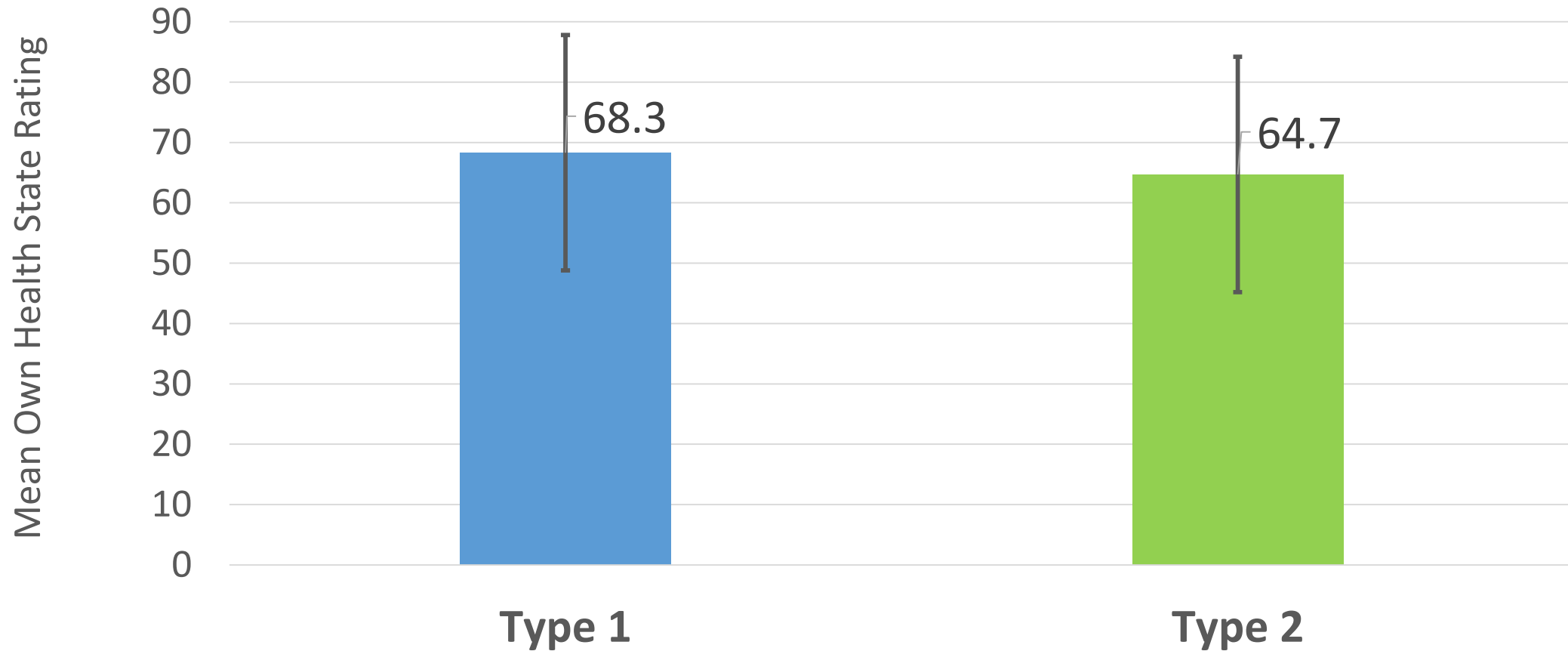
# Patient Wellbeing and QoL Assessment

- The Brief Case Find for Depression (BCD)
- Own Health Rating (EQ-5D Euro Quality of Life Group 2000)
- Diabetes Distress Scale 17 (DSS17)

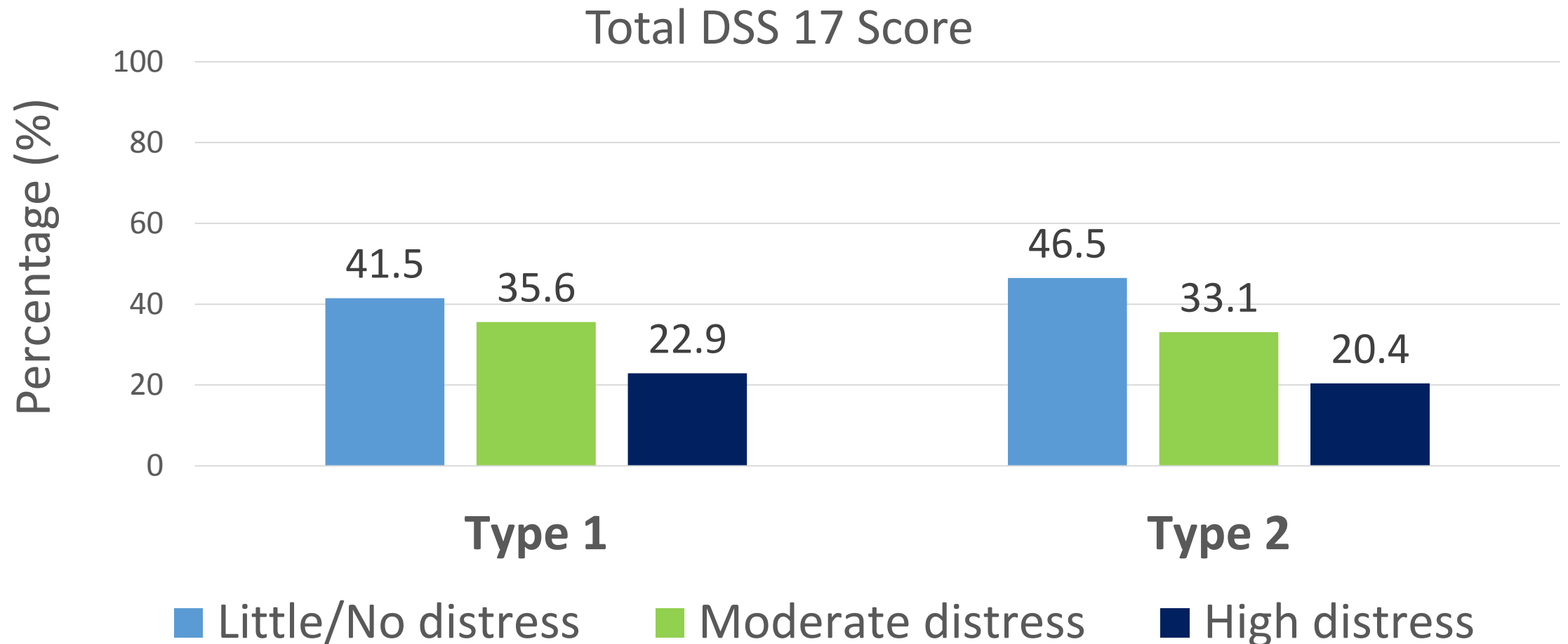
# Likely Depression (Brief Case Find Tool)



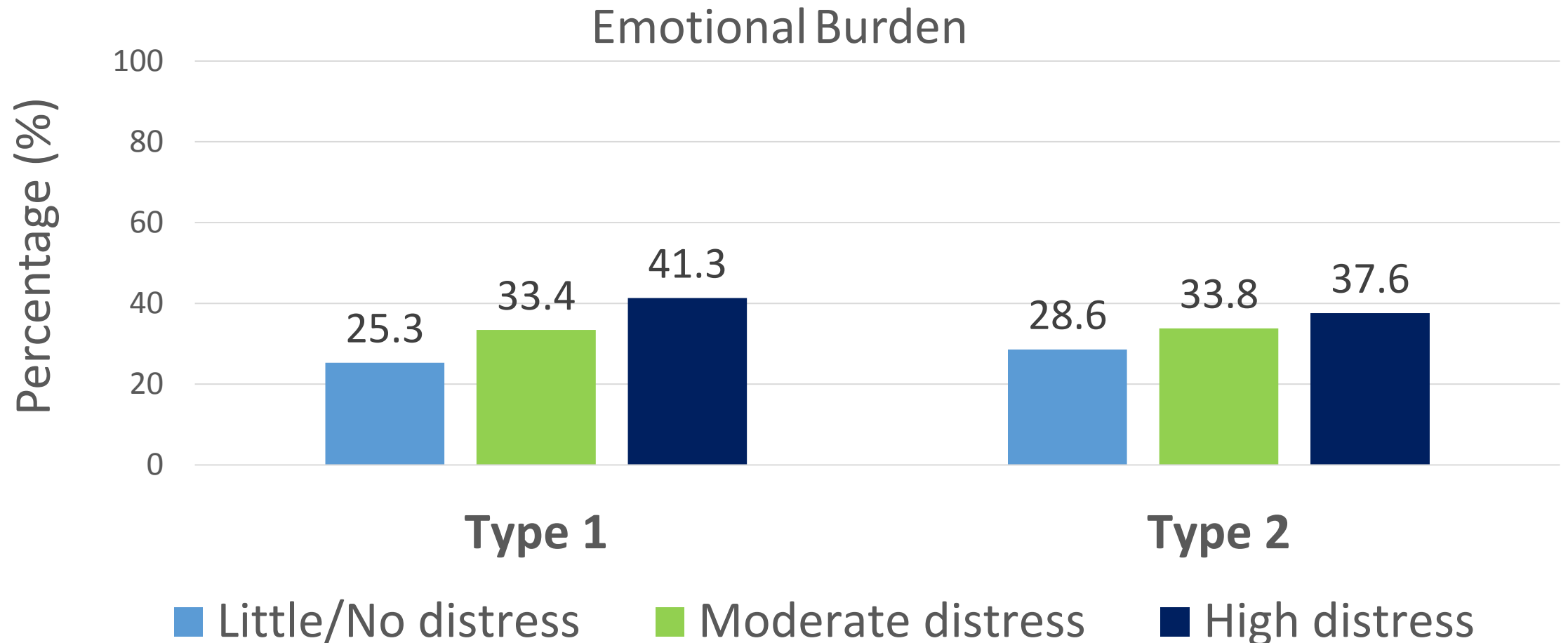
# Mean Own Health State Rating



# Diabetes Distress (DSS Scale 17)

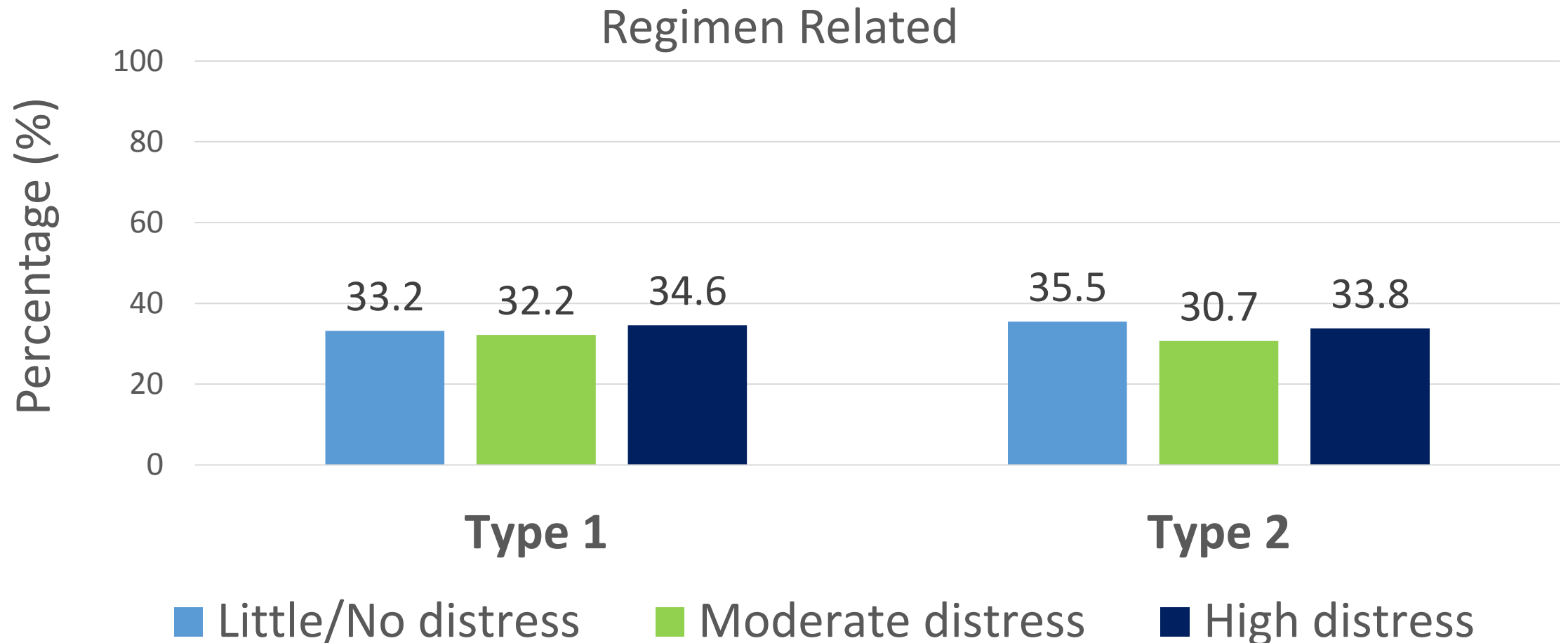


# Diabetes Distress (DSS Scale 17)

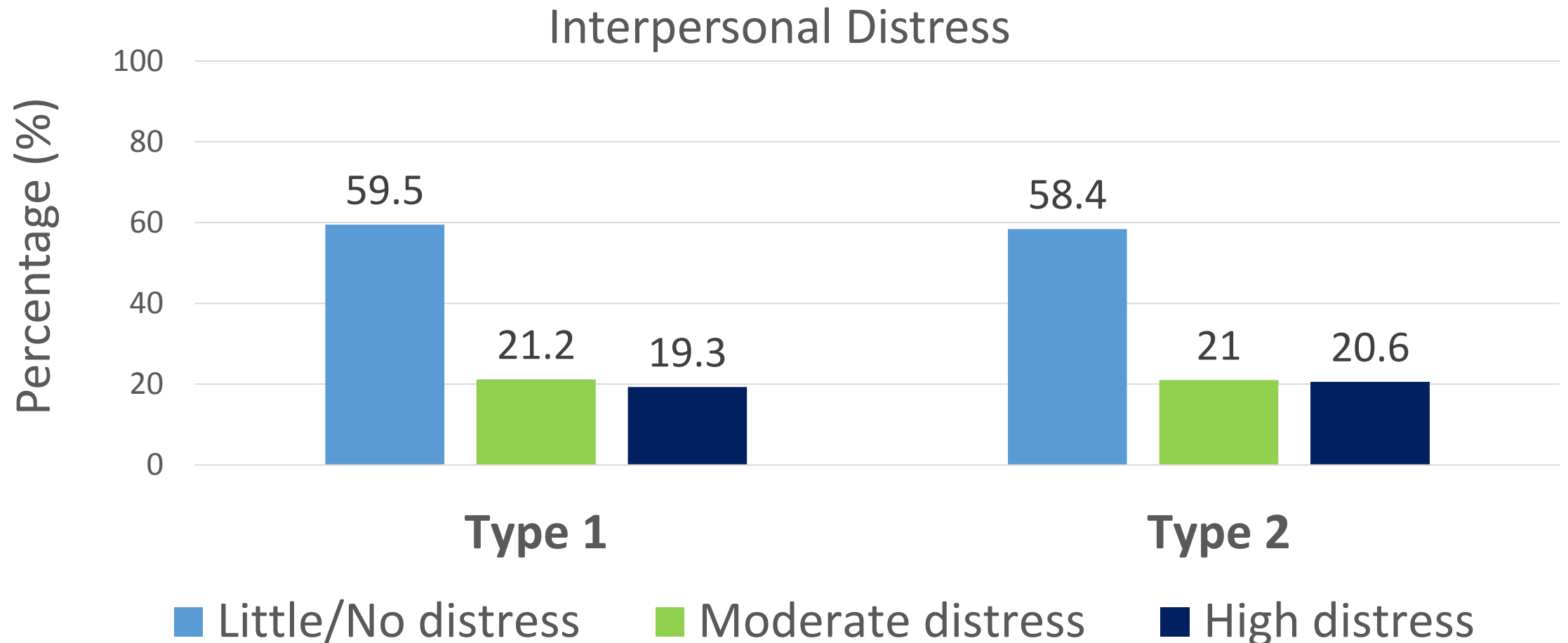




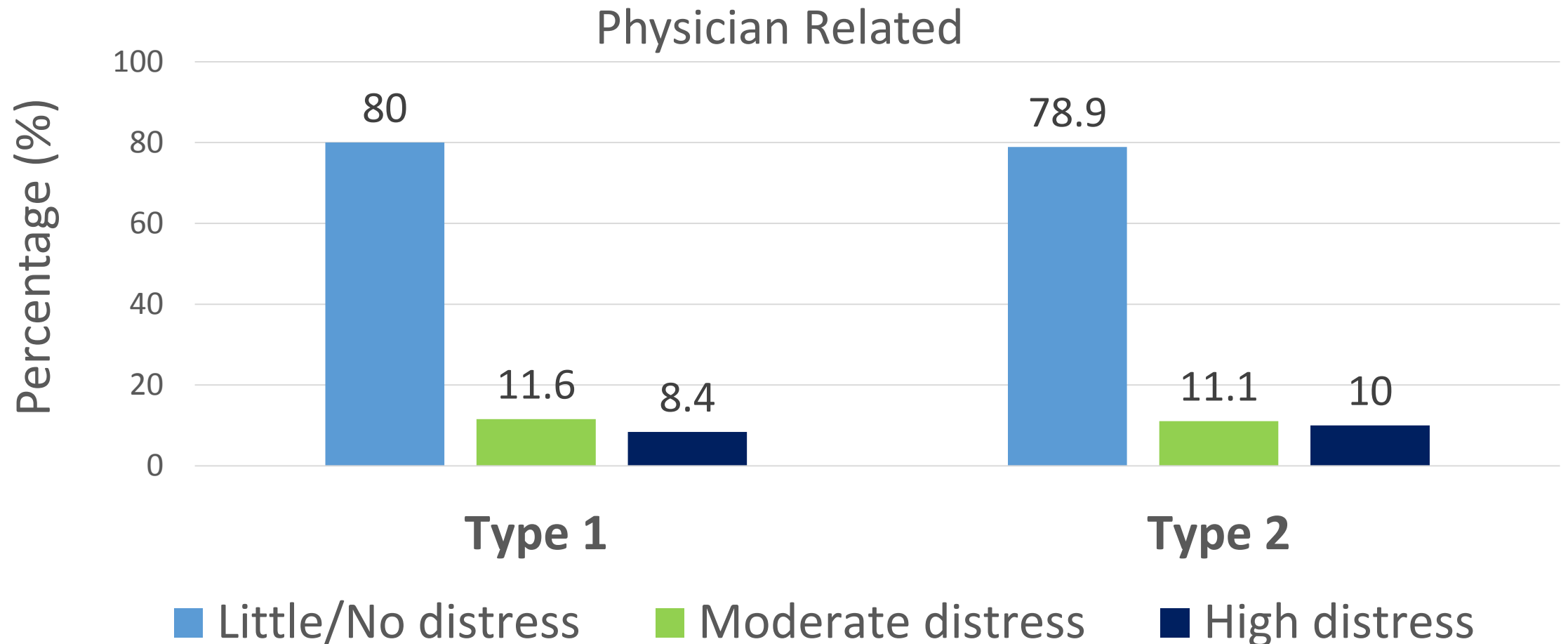
# Diabetes Distress (DSS Scale 17)



# Diabetes Distress (DSS Scale 17)



# Diabetes Distress (DSS Scale 17)



# Key Messages

- Considerable diabetes related distress & reduction in wellbeing
- **27%** of patients experience “likely depression”
- **~1 in 10** patients usually do not take all their medications
- **26%** do not monitor their blood glucose levels as recommended
- Of **13%** current smokers, **¾ had tried** to quit

# Key Messages

- **54%** of patients do not engage in sufficient physical activity
- **1/3<sup>rd</sup>** had difficulty adhering to a recommended diet
  - But **only half** had seen a dietitian in the last 12 months
- **45%** of patients had not seen a podiatrist in the last year

# Future Steps

- Review dataset
- Continue to reduce missing data
- Encouraging use of electronic data collection system as capabilities develop

# Acknowledgments

- Participating Centres
- National Association of Diabetes Centres
- Department of Health
- Monash Health
- Monash University
  - Centre for Informatics and Data Management Unit
    - Monash Centre for Health Research and Implementation
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- Sanjeeva Ranasinha – Biostatistician
- Trieu-Anh Truong – Data Management Officer
- Elspeth Lilburn – ANDA Secretariat
- Natalie Wischer – NADC Chief Executive Officer