

Analysis of Barriers to Childhood Immunization Compliance in Patients Served by a Community Health Center

A Dickinson College and Sadler Health Center Community Study

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Presentation Overview

- * Background information on immunization
- * Barriers to immunizations
- * Results of compliance survey
- * **Purpose: to provide Sadler Health Center with information about barriers that patients face in keeping their children up to date with vaccinations and wellness visits.**



Sadler Health Center Corporation is a Federally Qualified Community Health Center serving parts of Cumberland, Perry, Adams and Franklin counties

Importance of Childhood Immunizations

* If child **is** immunized...

- * Child's body prepared to fight illness
- * Antibodies developed to fight disease
- * Chance of illness greatly reduced
- * Spread of disease prevented
- * Diseases become less common

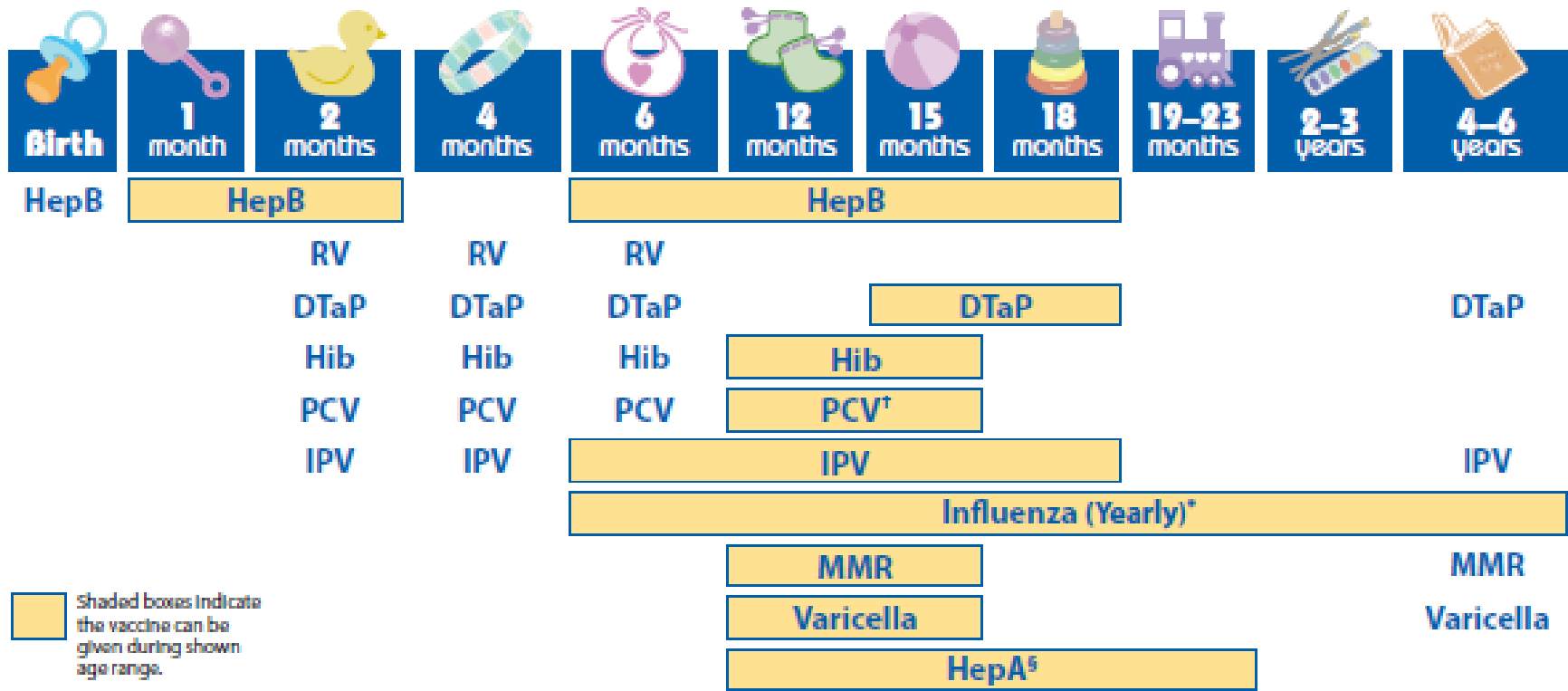
* If child **is not** immunized...

- * Child's body is not prepared or strong enough to fight disease
- * Disease can be spread, putting others at risk
- * Diseases previously controlled by vaccination can resurface

Vaccine-Preventable Diseases

Anthrax	Japanese Encephalitis (JE)	Rabies
Cervical Cancer	Lyme Disease	Rotavirus
Diphtheria	Measles	Rubella (German Measles)
Hepatitis A	Meningococcal	Shingles (Herpes Zoster)
Hepatitis B	Monkeypox	Smallpox
Haemophilus influenzae type b (Hib)	Mumps	Tetanus (Lockjaw)
Human Papillomavirus (HPV)	Pertussis (Whooping Cough)	Tuberculosis
H1N1 Flu (Swine Flu)	Pneumococcal	Typhoid Fever
Influenza (Seasonal Flu)	Poliomyelitis (Polio)	Varicella (Chickenpox)
		Yellow Fever

2011 Recommended Immunizations for Children from Birth Through 6 Years Old



Reasons for Noncompliance

- * Barriers and Concerns

Administrative and Logistical Barriers

- * Lack of standardization of immunization information
 - * Pediatricians more likely to administer the varicella immunization than family doctors.
- * Difficulty tracking immunization history
 - * Only 3% of primary physicians use the Immunization Registry (Kimmel *et al.*, 2007).

Safety Concerns

- * In a study of 13,500 parents, as much as 22.6% of parents cited safety as a major barrier (Burns *et al.*, 2005).
- * Thimerosal Controversy
 - * Prevented 12% of parents from consenting to thimerosal-containing influenza vaccine (Edwards *et al.*, 2011).

Safety Concerns

* Thimerosal-Autism Controversy

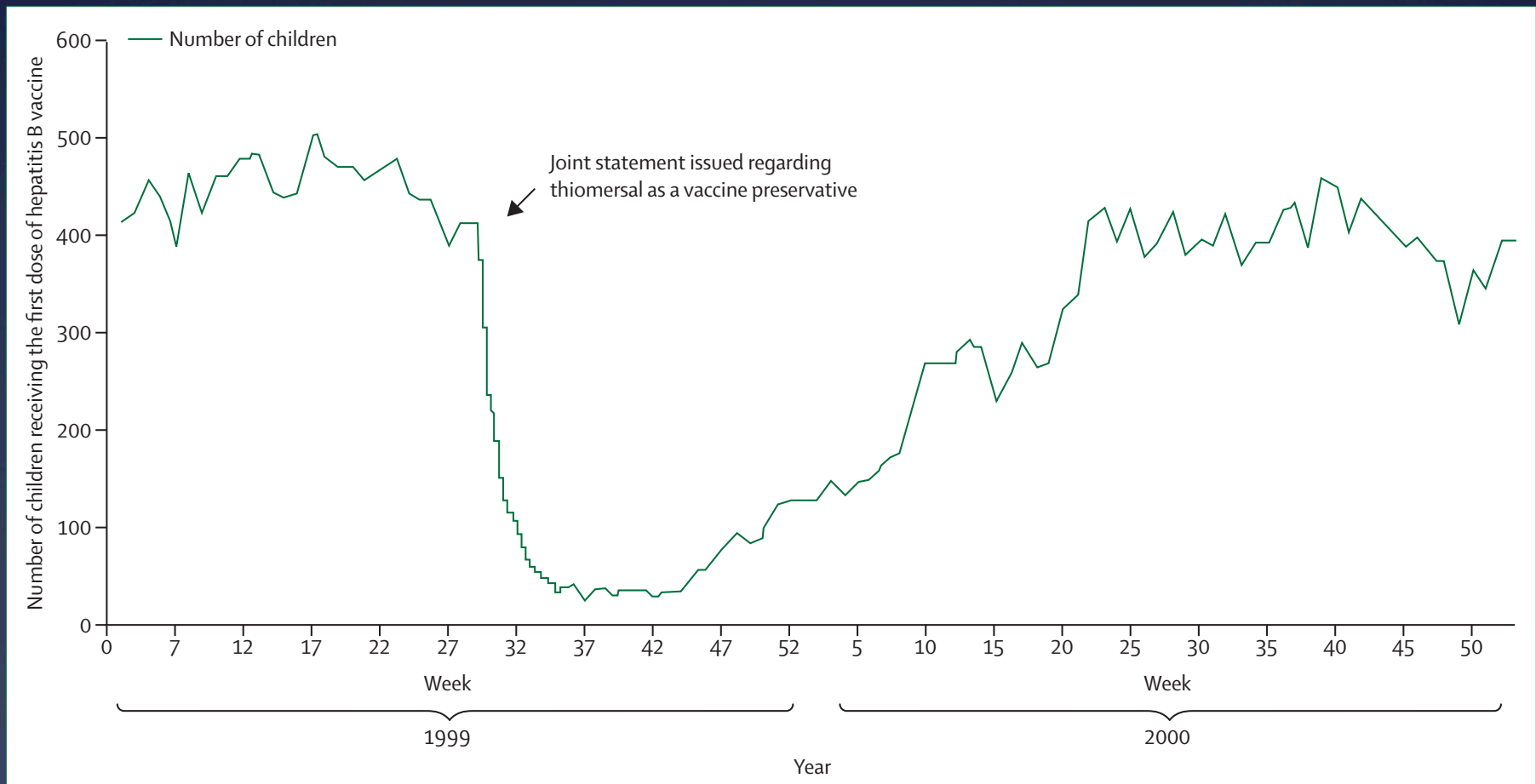


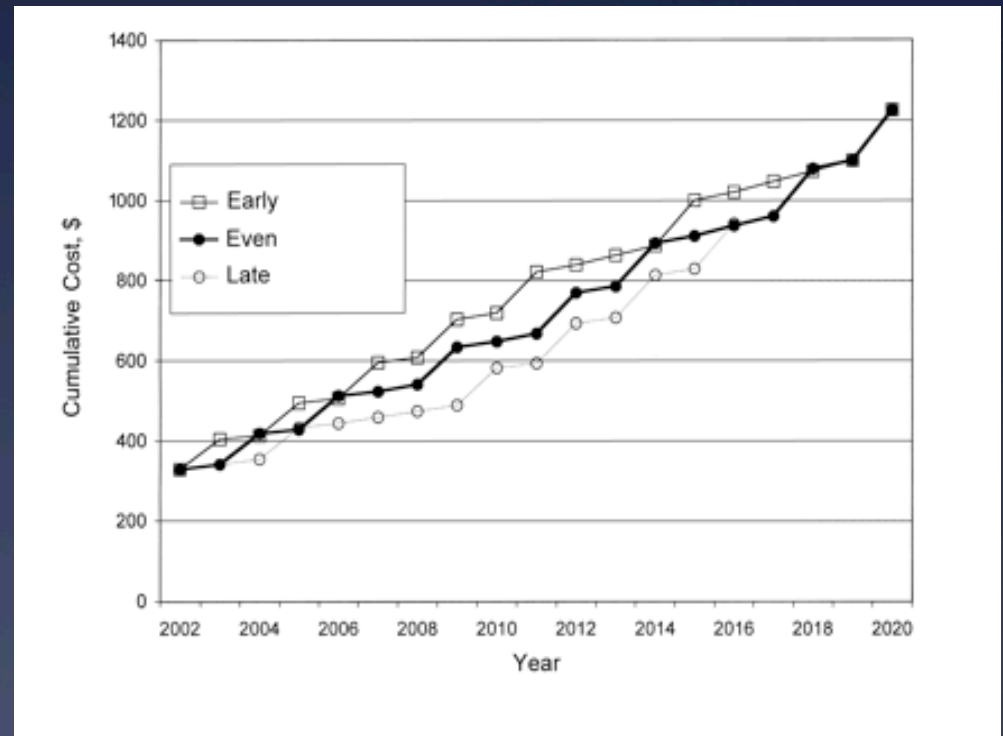
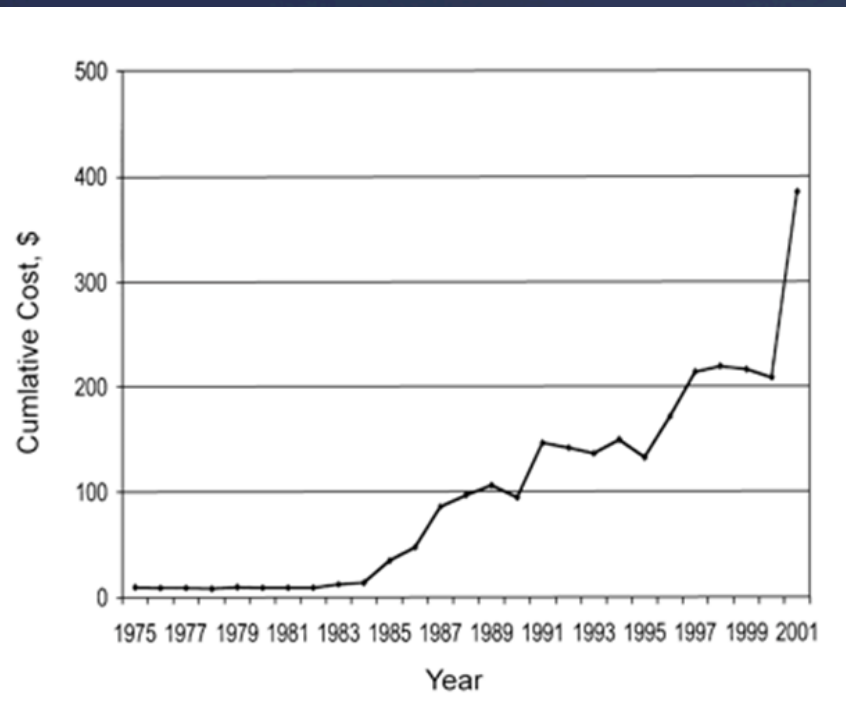
Figure 1: Number of children who received the first dose of hepatitis B vaccine less than 5 days after birth (USA, 1999–2000)
Data from the US Centres of Disease Control and Prevention's morbidity and mortality weekly report.³⁸

Barriers for Low-Income Patients

- * Lack of knowledge of immunization schedule
- * Clinic hours
- * Missed appointments and scheduling conflicts
- * Misconceptions about vaccinations
- * Lack of transportation
 - * One study found as many as 11.6% of parents reported this problem (Rosenthal *et al.*, 2004).

Rising Cost of Immunizations

- * Cost of vaccine (paired with new vaccines and increased dosages)
 - * \$10 in 1975
 - * \$385 in 2001
 - * Will be \$1225 2020



Childhood Immunization Compliance Survey

Overview

- * Purpose: to provide the Sadler Health Center with information about barriers that patients face in keeping their children up to date with vaccinations and wellness visits.
 - * Anonymous survey sheet distributed to patients
 - * Telephone interviews conducted using the survey as a script
- * Subjects: 84 Sadler patients
 - * 20 in-clinic
 - * 64 by phone

Immunization Survey by Dickinson College and Sadler Health Center

Gender: M / F Zip Code: _____ How many children do you have? _____

Main Reasons for your child not being up to date with vaccinations and wellness visits

Which statements explain why you would miss an appointment?

****Please circle the answer that you agree with most****



Statement	Very true	Somewhat true	Not true	I don't know
I don't have reliable transportation.	Very true	Somewhat true	Not true	I don't know
It is too expensive.	Very true	Somewhat true	Not true	I don't know
I am busy when the clinic is open.	Very true	Somewhat true	Not true	I don't know
The appointment takes too long.	Very true	Somewhat true	Not true	I don't know
I think vaccines are dangerous.	Very true	Somewhat true	Not true	I don't know
I have other children to take care of.	Very true	Somewhat true	Not true	I don't know
I do not know when I should come in.	Very true	Somewhat true	Not true	I don't know
I do not agree with vaccinations because of my religion.	Very true	Somewhat true	Not true	I don't know
I do not want my children to experience pain.	Very true	Somewhat true	Not true	I don't know

Other: _____

Please check the source of information that you rely on most to get information about vaccinations

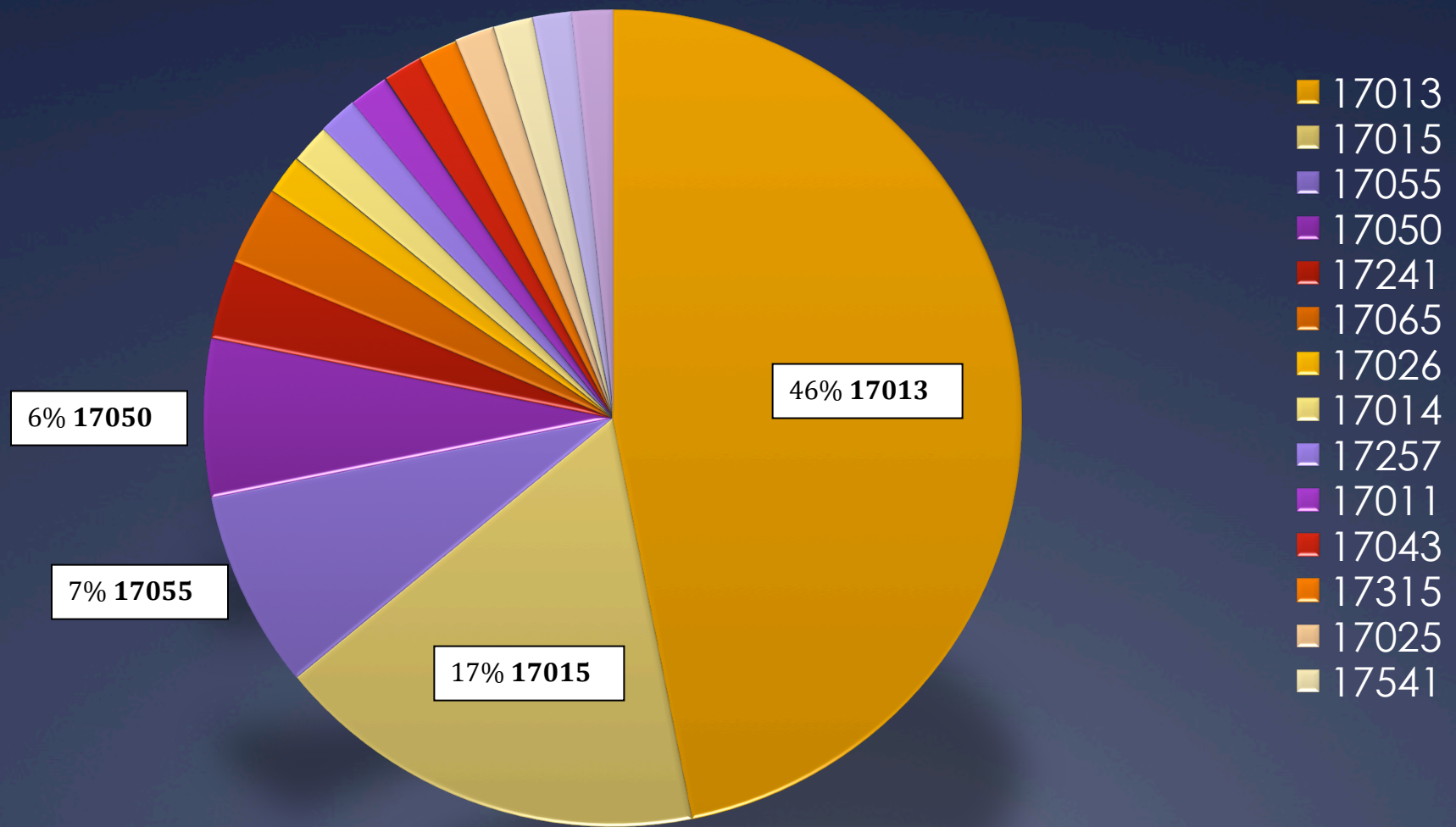
Doctor/ nurse _____

Family/friends _____

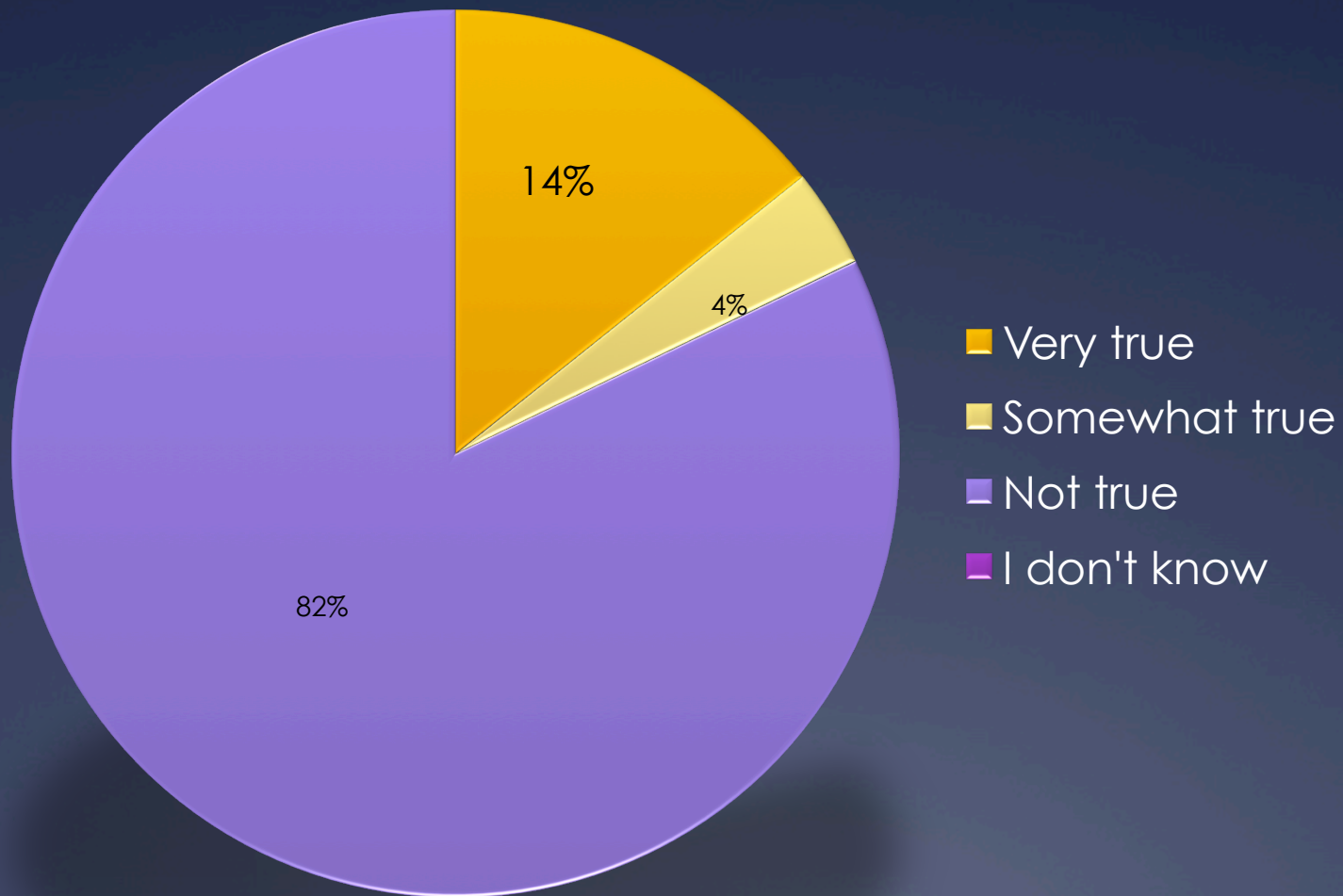
Internet/ T.V. _____

Other forms of media _____

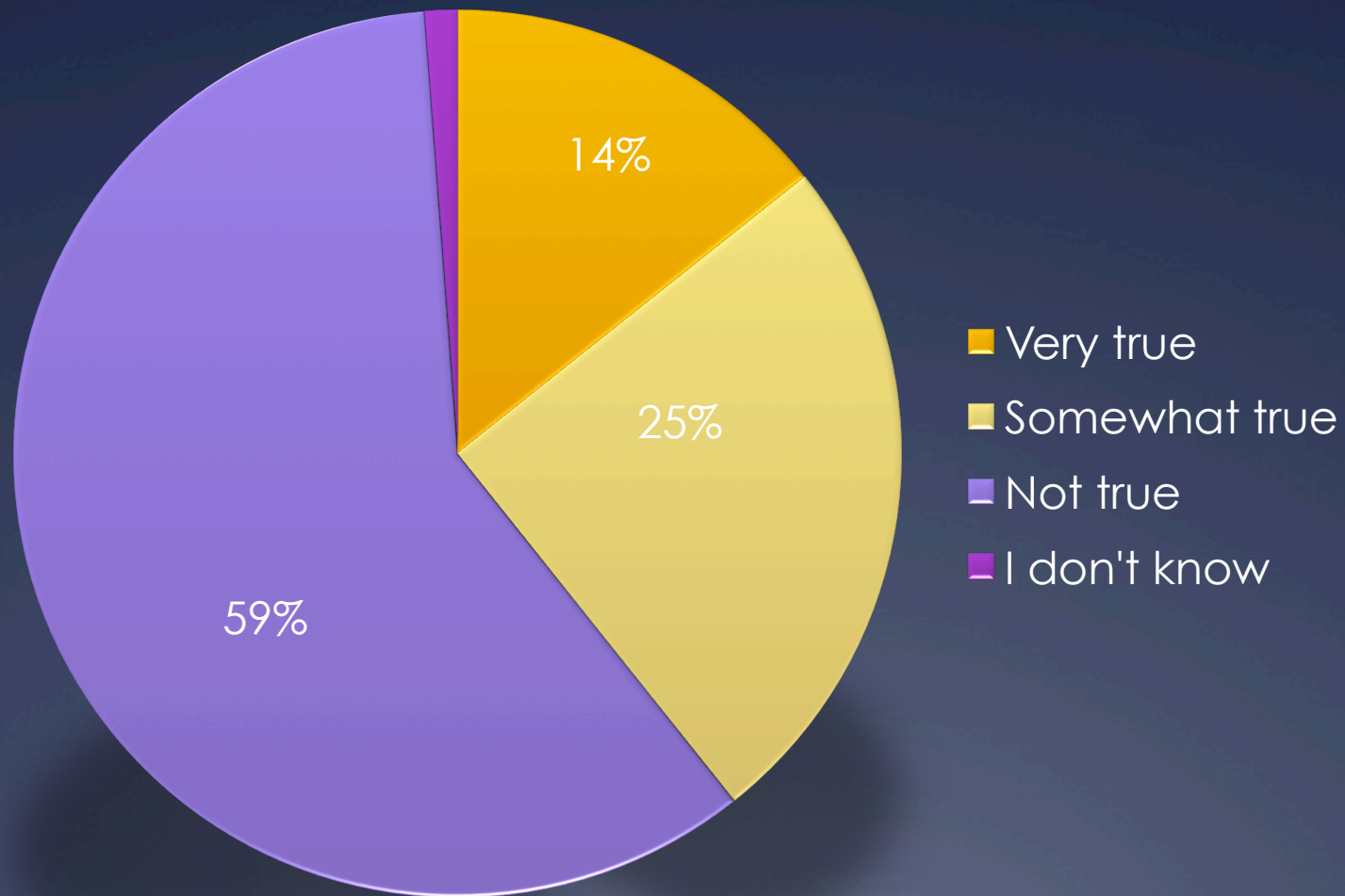
Geographic Distribution of Participants (by area code)



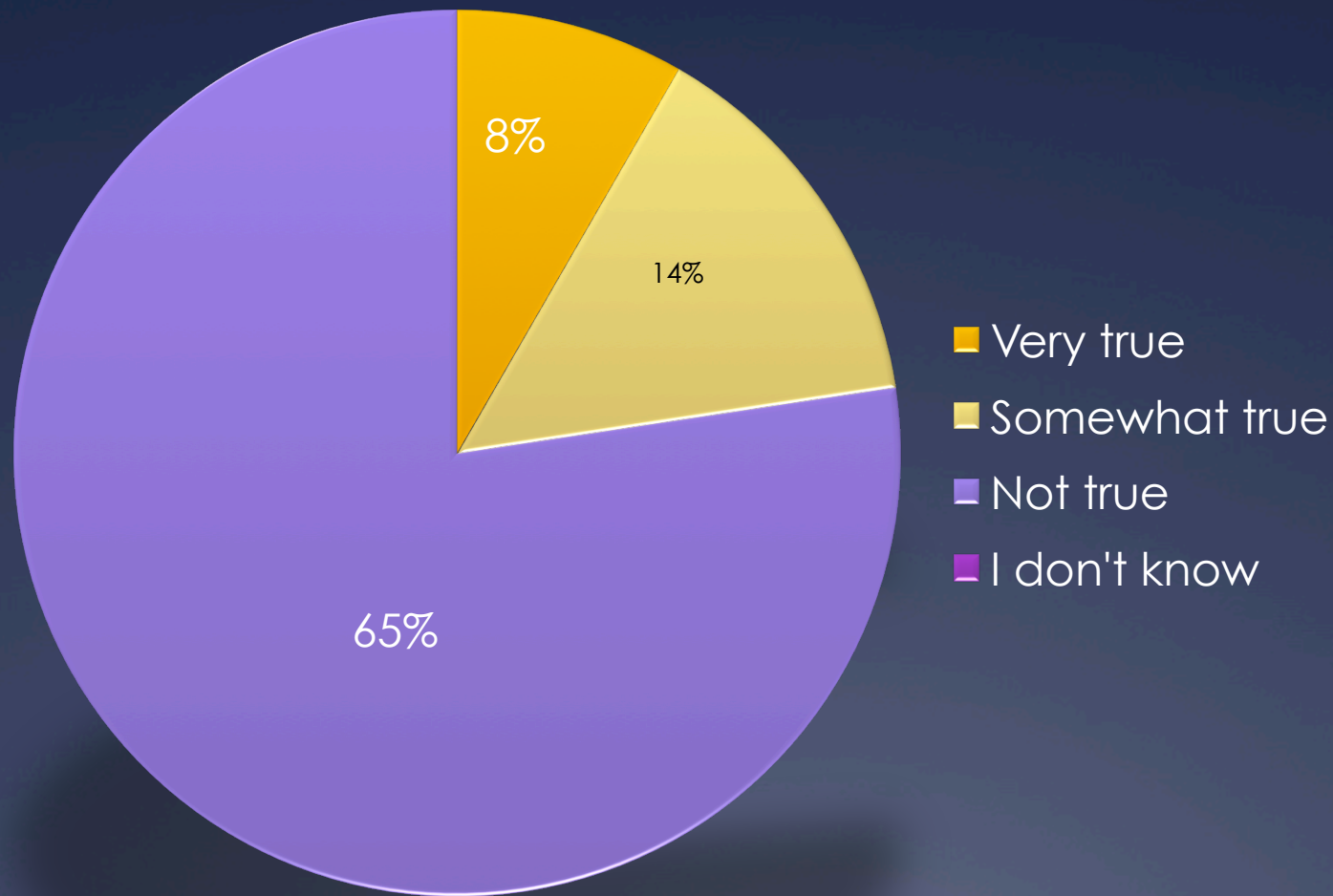
“I do not have reliable transportation.”



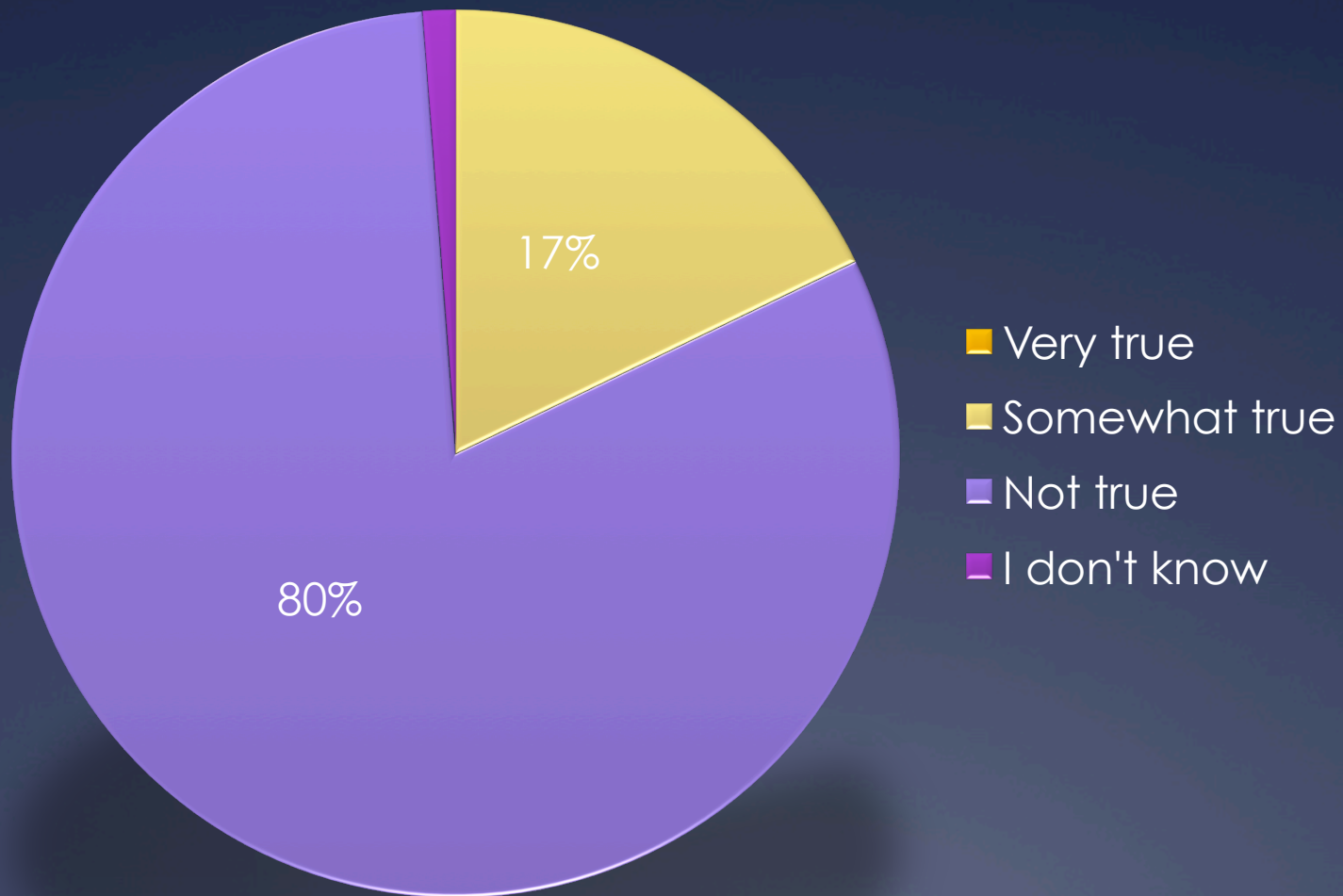
“I am **busy** when the clinic is open.”



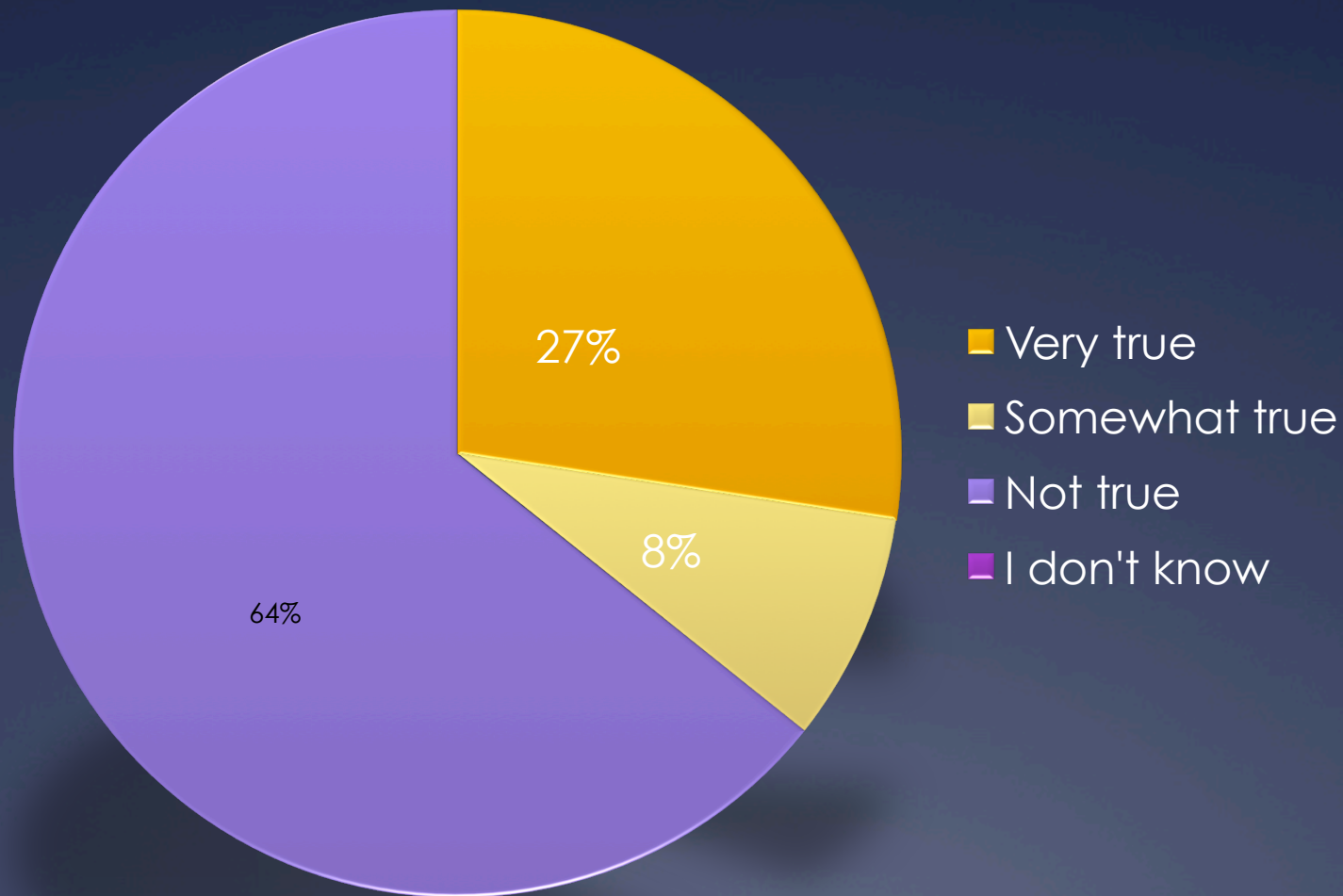
“The appointments take **too long.**”



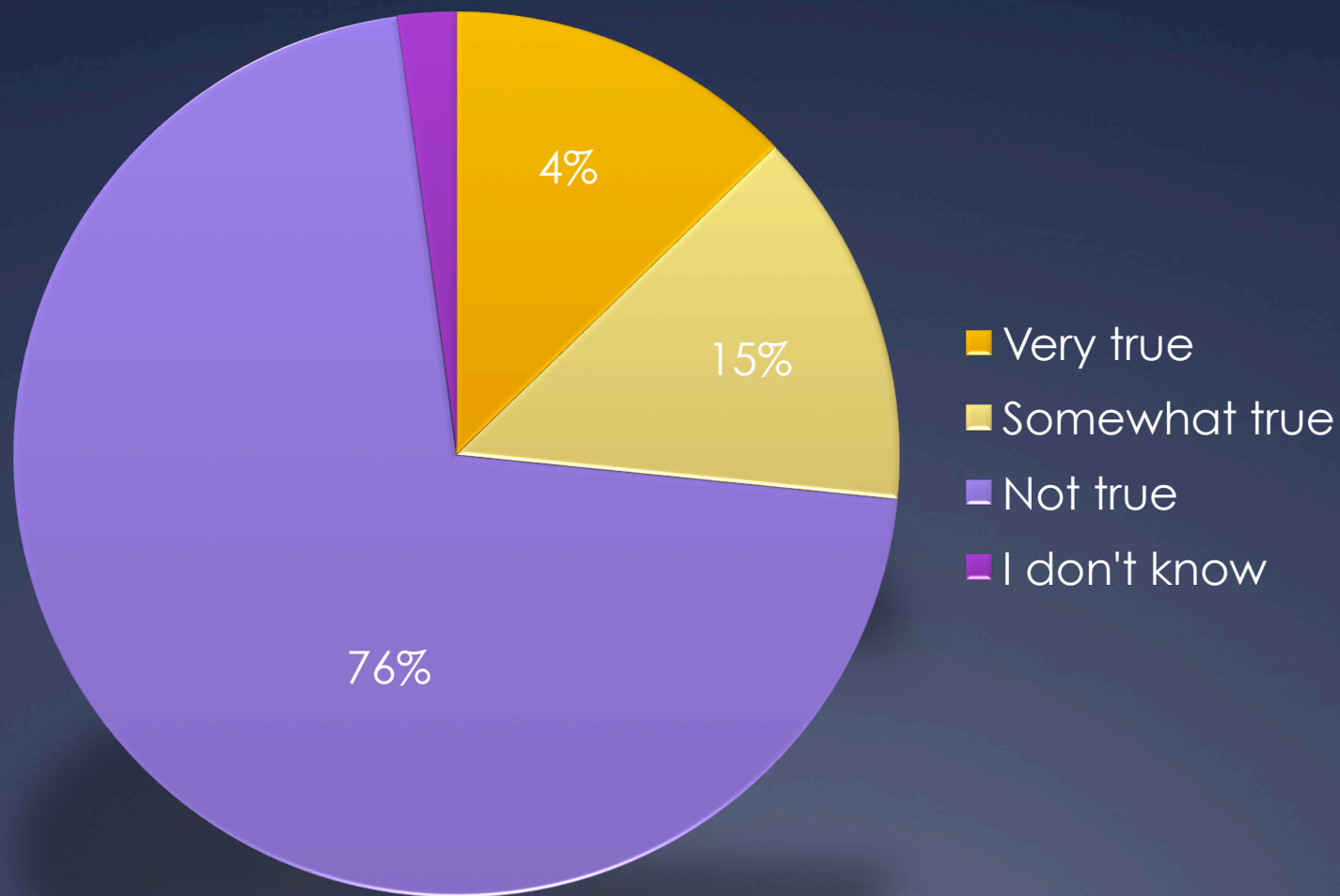
“I think vaccinations are
dangerous.”



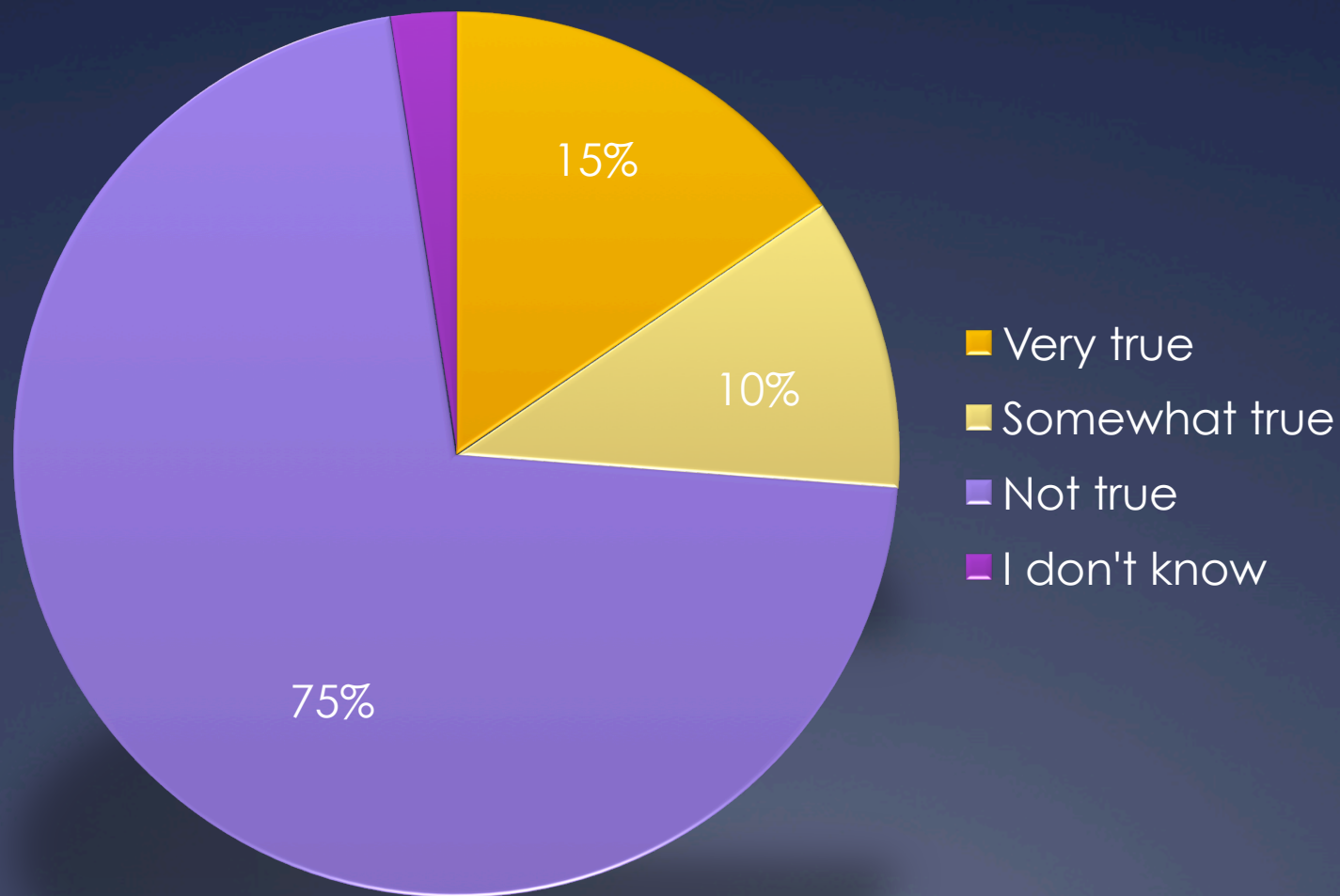
“I have **other children** to care for.”



“I do not know **when** I should
come in.”

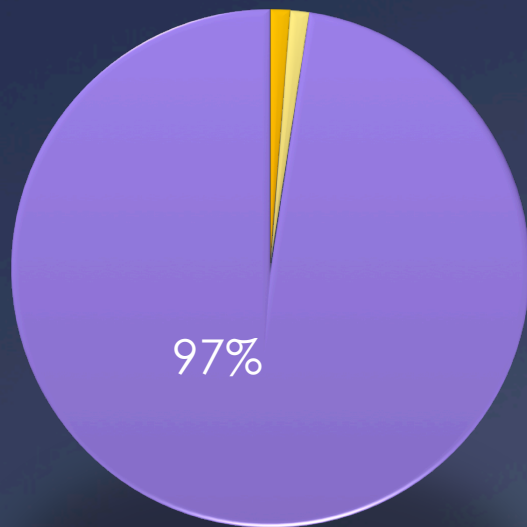


“I do not want my children to experience **pain.**”

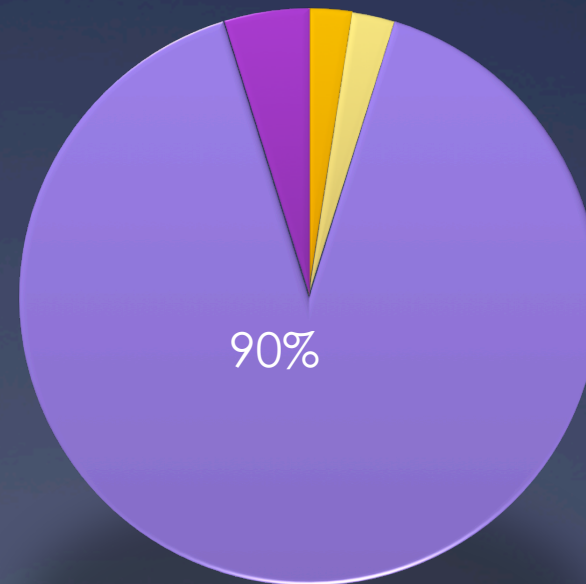


“I do not agree with vaccines because of my **religion.**”

“The appointments are **too expensive.**”

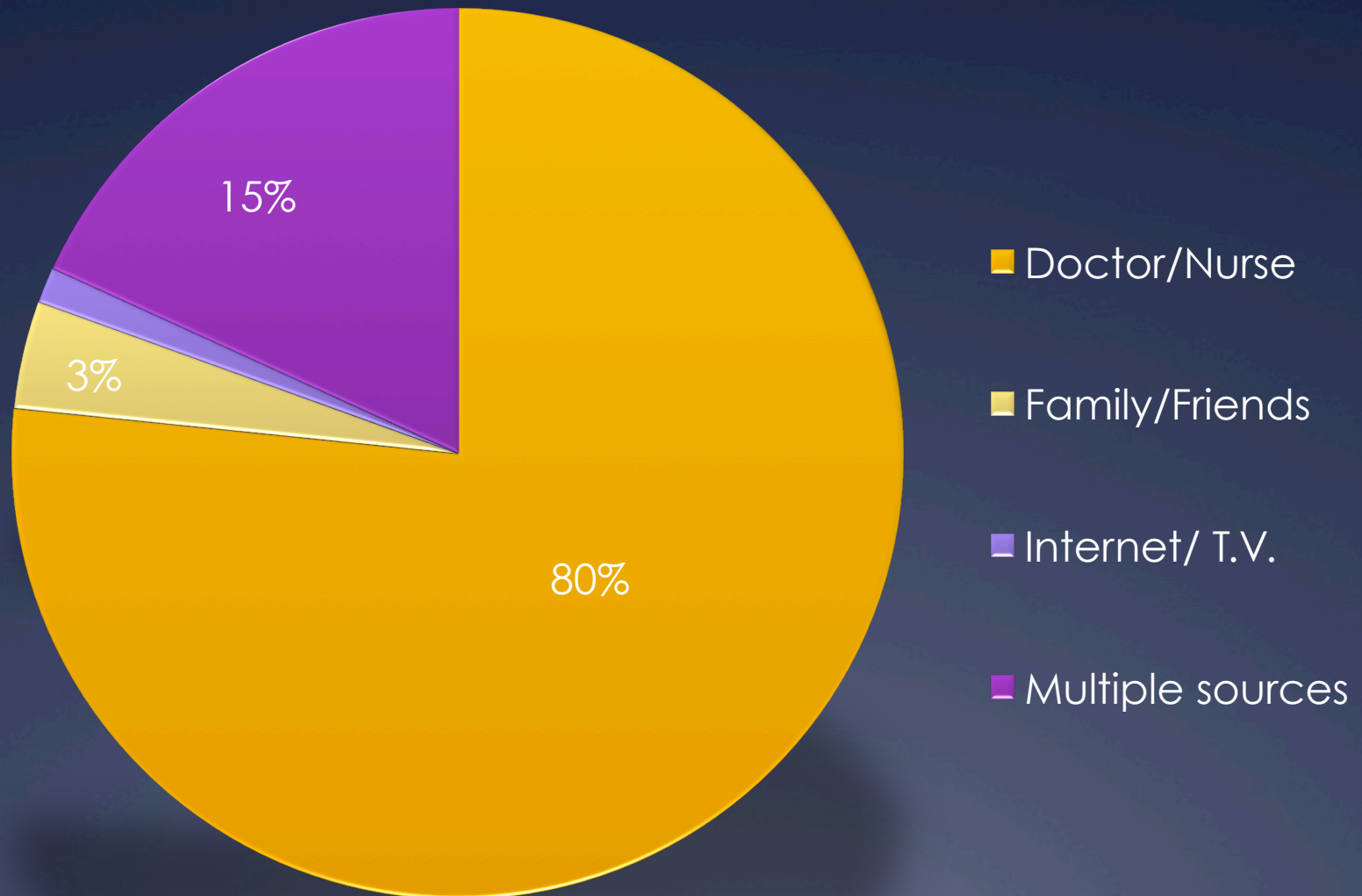


- Very true
- Somewhat true
- Not true
- I don't know



- Very true
- Somewhat true
- Not true
- I don't know

Sources of Information



Patient Comments

- * Parents would prefer more open clinic hours. Many reported that weekend hours would be “very helpful.”
- * Appointments are scheduled too far in advance. This process takes too long (ex. teeth cleaning appointment could not be made for 6 months).
- * Parents would like to receive the immunization schedule chart.
- * Parents would like more information about vaccine benefits as well as potential risks.
- * Misinformation:
 - * One participant reported that his midwife didn't recommend getting vaccines until children were at least 6 months old.
 - * Another participant reported that they believe the flu shot is dangerous.

Conclusions

Top barriers in order of importance (out of 84):

- * Busy while clinic is open (33)
- * Other children to care for (30)
- * Don't know when to come in (25)
- * Don't want children to experience pain (22)
- * Appointments take too long (19)
- * Vaccinations are dangerous (19)
- * Don't have reliable transportation (15)
- * Appointments are too expensive (4) and religion (2) were not significant barriers

Limitations

- * Social desirability (especially for phone interviews)
- * Responses to questions may be biased due to varying patient interpretations of questions

Recommendations

- * Education about immunizations is important
- * Main issue: clinic hours
 - * Extended hours (more than Thursday)
 - * Vaccination days
 - * Weekend hours
- * For parents with multiple children, provide childcare
- * Parents confused about when to come in:
 - * Complexity of child immunization schedules is an issue
 - * Printed display both in clinic and to bring home
 - * Call reminders
 - * Social media mechanism and/or texting
 - * Parents prefer a text message containing the child's name, specific immunization, and physician (Schmidt et al., 2011).

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