

Joanne S. Buzaglo<sup>1</sup>, Clare Karten<sup>1</sup>, Melissa F. Miller<sup>1</sup>, Joseph A. Greer<sup>2</sup>, Elisa S. Weiss<sup>3</sup>, Michael Mauro<sup>4</sup>

<sup>1</sup>Cancer Support Community, Philadelphia, PA, <sup>2</sup>Massachusetts General Hospital Cancer Center, Boston, MA, <sup>3</sup>The Leukemia & Lymphoma Society, White Plains, NY, <sup>4</sup>Memorial Sloan-Kettering Cancer Center, New York, NY.

## Introduction

Tyrosine kinase inhibitors (TKIs) are an effective form of treatment for patients with chronic myeloid leukemia (CML), but use is long term and possibly lifelong. Suboptimal adherence is common and adversely affects clinical outcomes and healthcare costs. Patients with suboptimal adherence might under-recognize missed dose impact on response. Thus, it is important to explore beliefs and practices about medication adherence among patients with CML.

## Objective

This study explored the link between beliefs and behavior vis-à-vis adherence.

## Method

- The data source for this study is the Cancer Support Community's (CSC) **Cancer Experience Registry: CML**, which was developed in partnership with The Leukemia & Lymphoma Society (LLS). This is an online research initiative to investigate and raise awareness about the social and emotional experiences of patients with CML.
- Participants were recruited through an outreach plan that included collaboration with a mixed stakeholder national advisory council and communication with CSC affiliates, LLS and other advocacy organizations.
- From October 2013 to July 2014, 484 patients with CML enrolled in the Cancer Experience Registry: CML. 393 patients (81%) completed the survey.
- Participants reported missed TKI-dose frequency. **Suboptimal adherence behavior** was defined as having missed a dose at least once a month.
- To assess **beliefs about medication adherence**, we asked participants about their accord (strongly agree to strongly disagree) with the following two statements:

1. It is okay to miss a dose of my CML medicine every now and then.

2. I need to take every dose of my CML medicine or it might not work.

## Statistical Analysis

- Logistic regression was used to study the beliefs-behavior link among US patients taking TKIs (n=318).
- Regression models were adjusted for age, gender, time since diagnosis, and TKI cost per month.

## Results

Sample Characteristics	
Median age	59 years
Female	68%
Caucasian	90%
Black or African American	3%
Hispanic	3%
College degree or higher	51%
Median time since CML diagnosis	4 years
Annual Income	
<\$40K	32%
\$40-79K	31%
≥\$80K	37%
TKI cost per month	
<\$50	58%
\$50-100	19%
\$100-249	11%
\$250+	12%

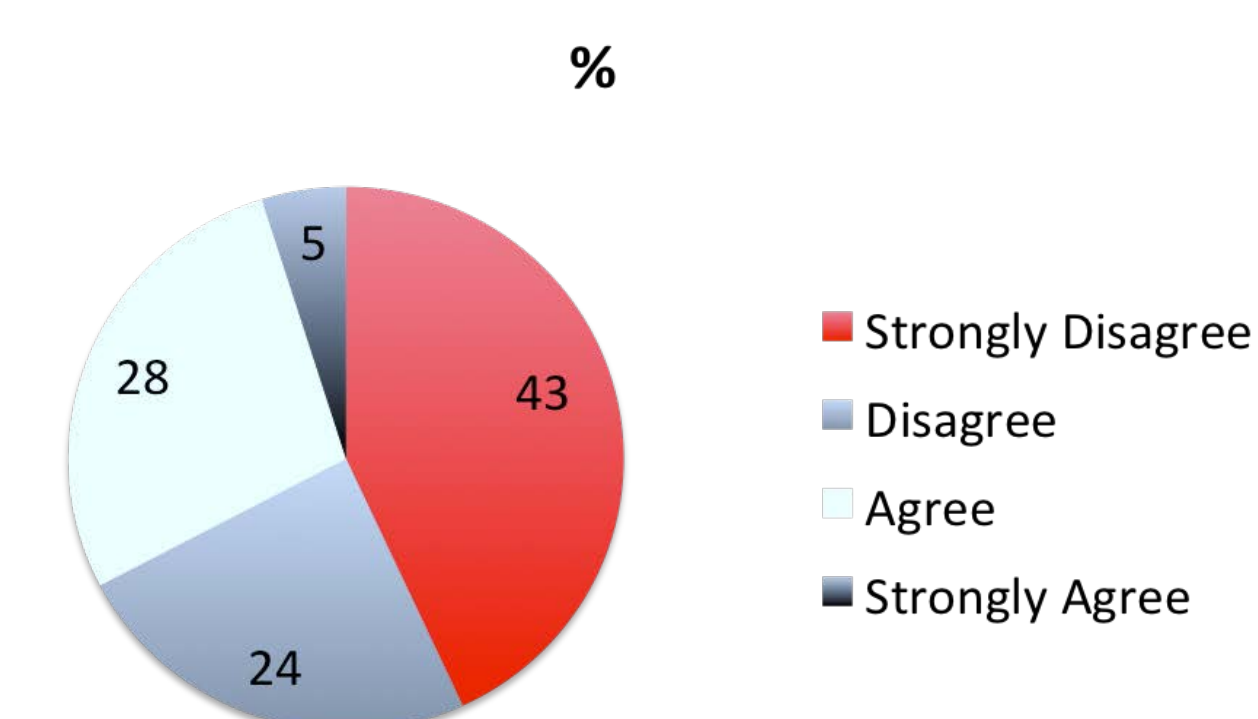
### Patient-Reported Suboptimal Drug Adherence

Missed a dose of oral CML medication at least once a month: **19%**

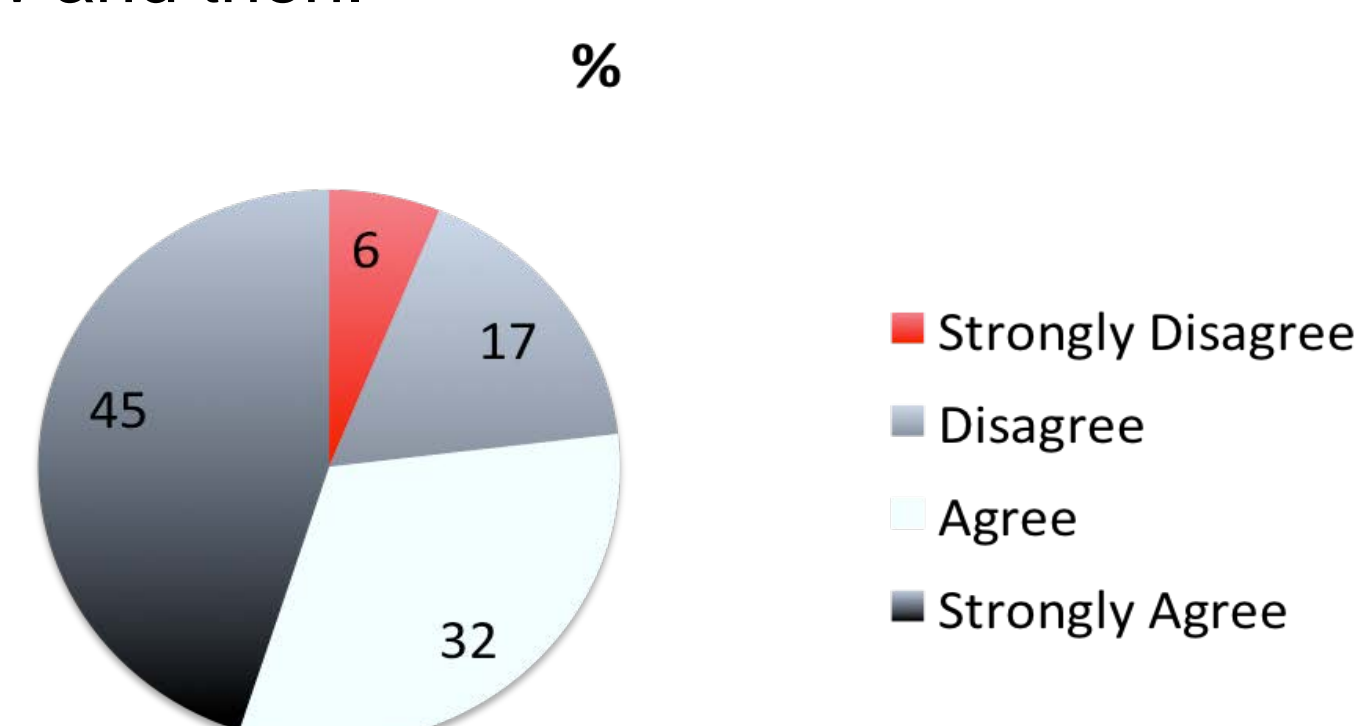
Postponed filling prescriptions: **14%**

Skipped dosages of prescribed CML medication: **10%**

### Beliefs about Medication Adherence

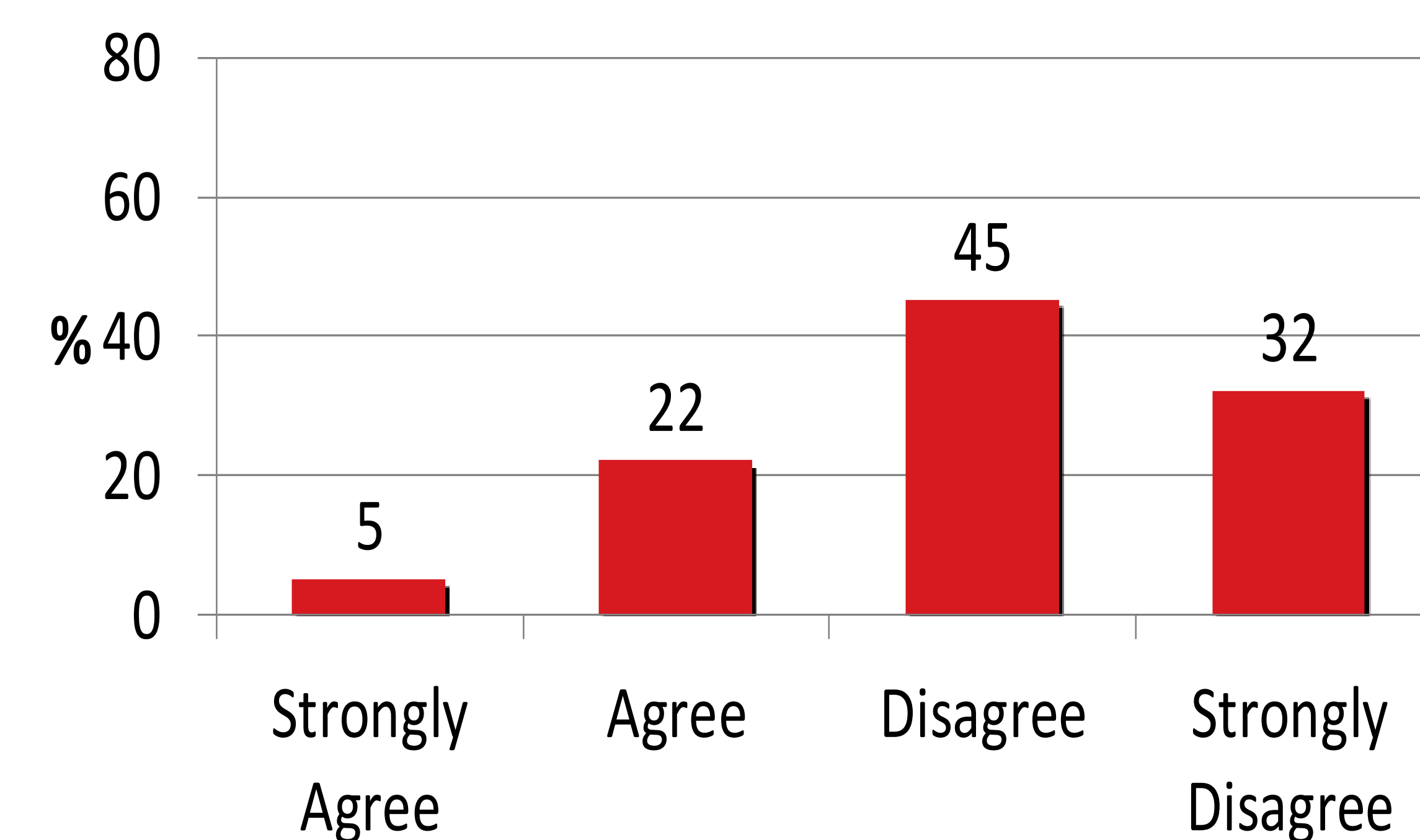
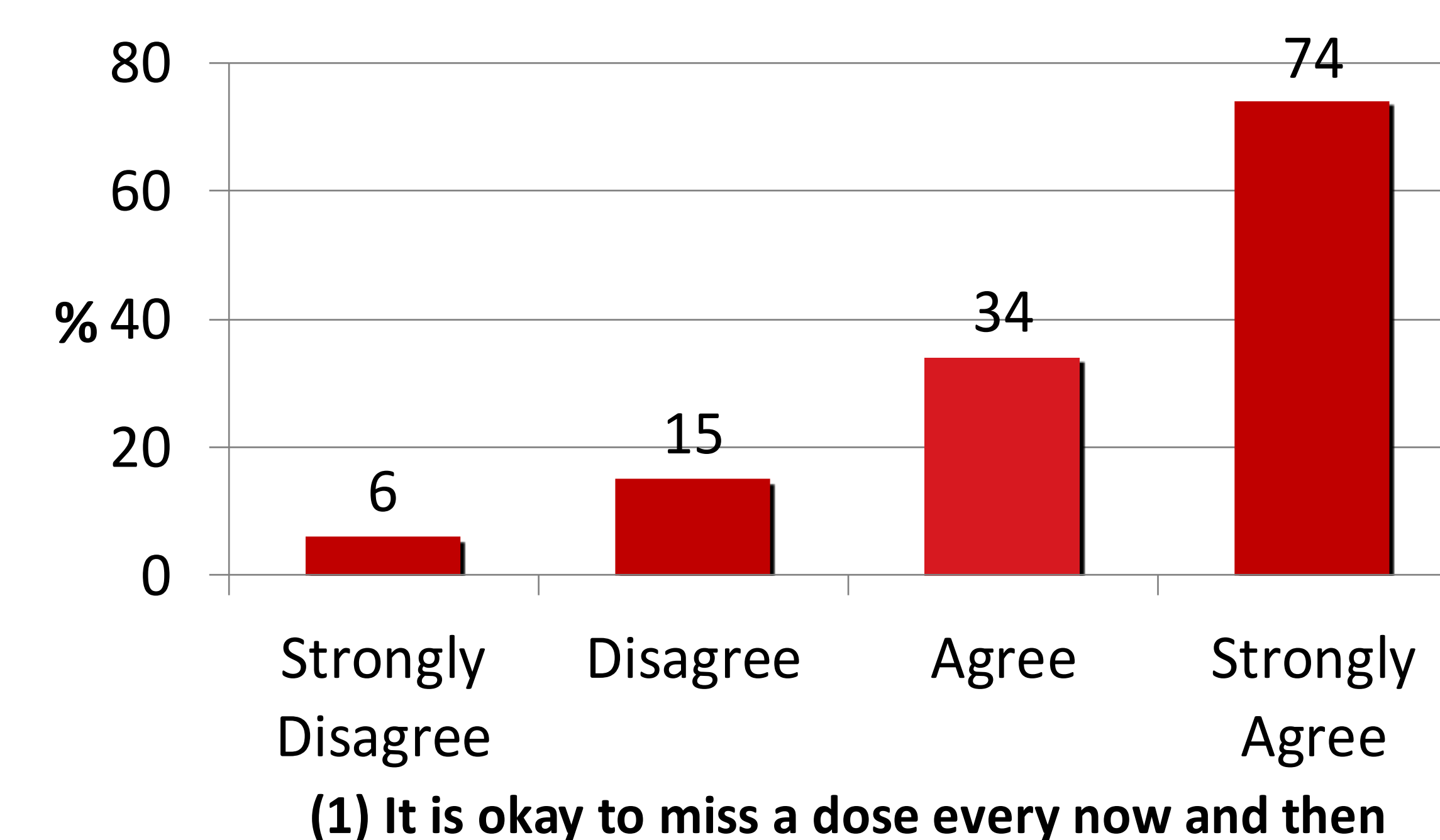


**Figure 1.** It is okay to miss a dose of my CML medicine every now and then.



**Figure 2.** I need to take every dose of my CML medicine or it might not work.

## Results



**Figure 1.** Prevalence of suboptimal adherence by accord with beliefs about medication adherence. Values adjusted for age, gender, time since diagnosis, and TKI cost per month.

- Compared to those who disagreed/strongly disagreed, those who agreed/strongly agreed with statement 1 were significantly more likely to have reported missing doses monthly (OR=7.04; 95% CI=3.65, 13.57).
- Also, those who disagreed/strongly disagreed with statement 2 vs. those who agreed/strongly agreed were significantly more likely to have reported missing doses at least once monthly (OR=5.36; 95% CI=2.81, 10.2).

## Conclusion

- CML patients' medication beliefs were strongly associated with suboptimal adherence.
- The results suggest the need for multifaceted patient education that could have a positive impact on adherence and survival.
- The results also suggest the need for training of health care professionals in how to assess and promote oral medication adherence over time among patients with CML.
- The relationship between beliefs and drug adherence merits further study to inform and refine tailored communications to improve oral medication adherence.

## Acknowledgements

Funding: Pfizer Oncology.

Partners: Members of the Cancer Experience Registry: CML National Advisory Council.



The Cancer Experience Registry is an online research initiative that captures the immediate and ongoing or changing social and emotional experiences of cancer survivors and their caregivers.

- The Registry is for all cancer survivors and caregivers, but also includes 9 disease specific surveys including CML.
- Patients and caregivers share their social and emotional experiences of cancer.
- Data is analyzed and disseminated toward the goal of improving the lives of those experiencing cancer.
- Findings contribute toward advancing research, care and policy.
- Over 7,600 cancer survivors and caregivers are registered in the Cancer Experience Registry.

Learn more or join the Registry at [www.CancerExperienceRegistry.org](http://www.CancerExperienceRegistry.org)