

Real-world Impact of Treated Hereditary Angioedema Attacks on Patients' Employment and Work Productivity

Timothy Craig¹, Paula Busse², Sandra Christiansen³, Maeve O'Connor⁴, Cristine Radojicic⁵, Julie Ulloa⁶, Sherry Danese⁶, Tomas Andriotti⁷, Paul Audhya⁷, Vibha Desai⁷

¹The Pennsylvania State University School of Medicine, State College, PA, USA; ²The Mount Sinai Hospital, New York, NY, USA; ³University of California San Diego, La Jolla, CA, USA; ⁴Allergy, Asthma, & Immunology Relief of Charlotte, Charlotte, NC, USA; ⁵Duke University School of Medicine, Durham, NC, USA; ⁶Outcomes Insights, Agoura Hills, CA, USA; ⁷KalVista Pharmaceuticals, Cambridge, MA, USA

Background

- Hereditary angioedema (HAE) is a rare genetic disease associated with unpredictable, painful, and debilitating attacks of tissue swelling in various locations of the body that can be life-threatening depending on the location(s) affected
- Global HAE treatment guidelines recommend that people living with HAE should consider treating all attacks early upon recognition to reduce the severity and duration¹⁻³
- Although reductions in frequency of HAE attacks have been demonstrated with non-androgen long-term prophylaxis (LTP), many patients continue to experience attacks requiring on-demand treatment²

Objective

- We examined the impact of the patients' last treated HAE attack on their ability to work and do daily activities, and whether this was diminished among those receiving LTP

Methods

- The US Hereditary Angioedema Association recruited participants with Type 1 or 2 HAE between April and June 2023
- Participants had to be at least 12 years old and had treated at least 1 HAE attack within the prior 3 months with an approved on-demand therapy, for inclusion in the survey
 - Participants completed a 20-minute, self-reported, online survey that inquired about their last treated HAE attack
 - Target sample size: 80 adults; 20 adolescents
- The Work Productivity and Activity Impairment Questionnaire: General Health assessed the impact of the last treated attack on participants' ability to work and do daily activities during the 7 days following attack onset

References

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Results

	Total (n=94)	Employed (n=42)
Current Mean Age, Years (SD)	39.4 (17.4)	39 (12.5)
Mean Age at Diagnosis, Years (SD)	18 (12.6)	20.2 (13)
HAE Type		
Type 1	81%	86%
Type 2	19%	14%
Gender		
Female	72%	73%
Race / Ethnicity		
White	87%	83%
Hispanic or Latino	9%	10%
Black / African American	3%	2%
American Indian/Alaskan Native	2%	5%
Asian	3%	2%
Other	1%	--
Payer Coverage		
Private or commercial health insurance	69%	86%
Medicare	16%	5%
Medicaid	14%	2%
Other	8%	10%

- Total sample consisted of 80 adults and 14 adolescents
- 42 participants self-reported as employed at the time of their last treated attack, and they were all adults

On-Demand Therapy ^a	On-demand Treatment Only (n=24) ^a	On-demand Treatment + LTP (n=18) ^a
Icatibant	71%	72%
Recombinant C1 Esterase Inhibitor	19%	17%
Plasma Derived C1 Esterase Inhibitor	7%	11%
Ecallantide	2%	0%

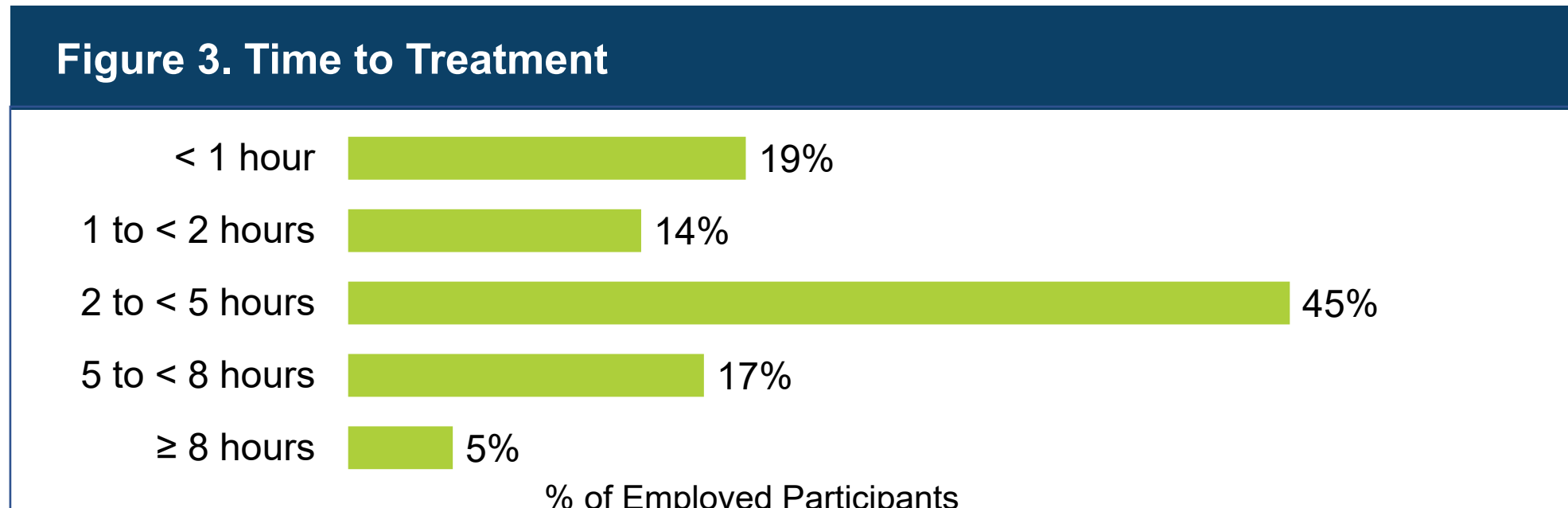
- 24 (57%) managed HAE attacks with on-demand treatment only
- 18 (43%) were receiving long-term prophylaxis (LTP) + on-demand treatment
- Mean time since last treated attack was 22 days (median = 14 days); 88% of patients had their attack in the past 1 month

Prophylaxis	% of Employed Participants ^a
Lanadelumab	29%
Subcutaneous Human C1 Esterase Inhibitor	10%
Bertralstat	2%
Intravenous Human C1 Esterase Inhibitor	2%

^a24 participants (57%) were not receiving LTP at the time of their last attack.

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- 19% of employed participants treated their HAE attack in <1 hour

Attack Severity ^b	On-demand Treatment Only (n=24) ^b	On-demand Treatment + LTP (n=18) ^b
Mild	29%	33%
Moderate	62%	50%
Severe	10%	17%
Very Severe	0%	0%

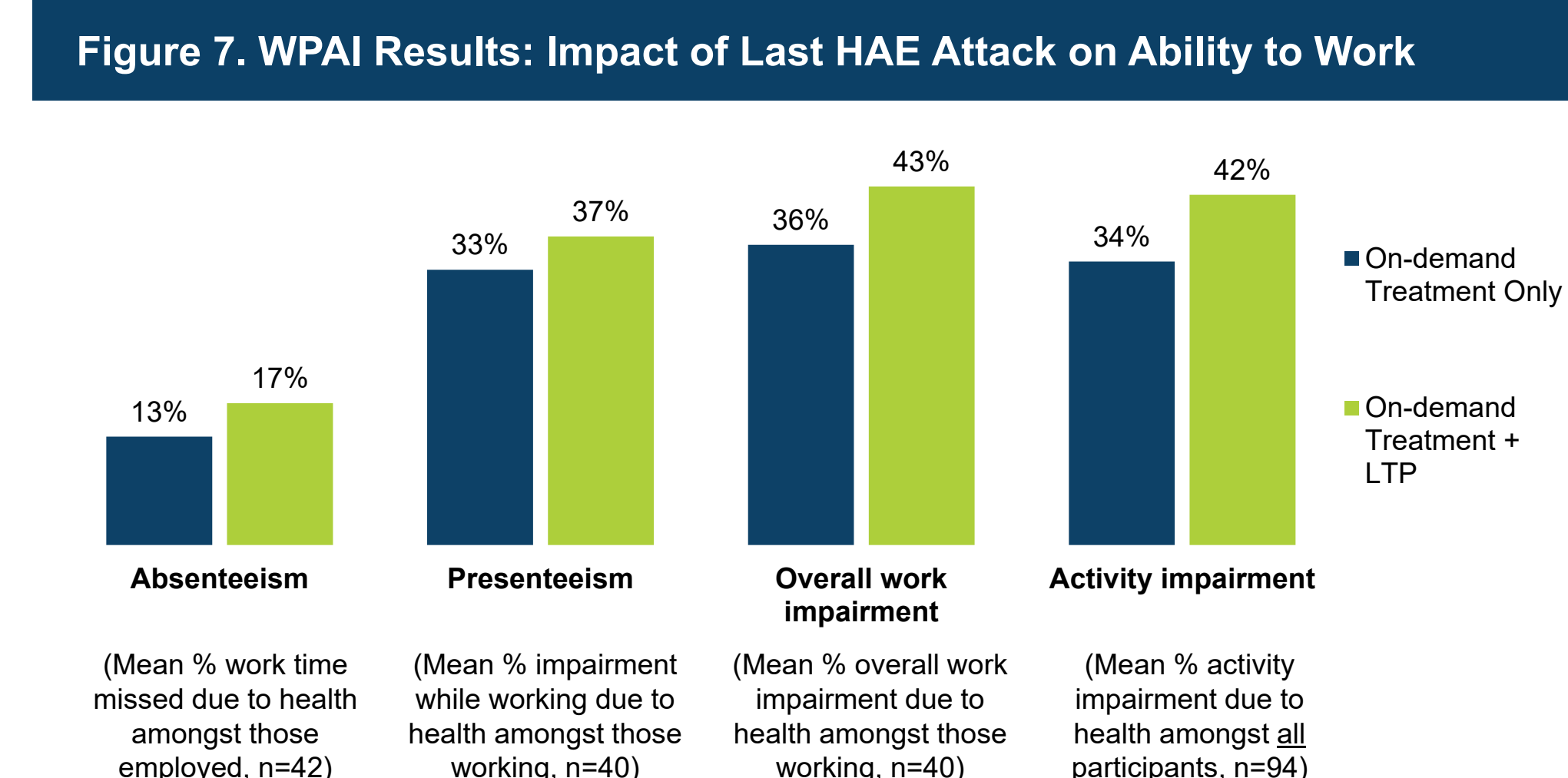
- ^aSurvey question: How severe was the attack when you decided to treat it?
- ^b% of Employed Participants.
- Thirty participants (72%) rated their attack severity as moderate to severe (75% On-demand; 67% LTP)

Initial Site of Attack ^a	On-demand Treatment Only (n=24) ^a	On-demand Treatment + LTP (n=18) ^a
Abdominal/Stomach	64%	61%
Peripheral	14%	17%
Face	7%	0%
Throat	7%	6%
Genitals	5%	11%
Trunk	2%	1%

^a% of Employed Participants

	Total (n=42)	On-demand Treatment Only (n=24)	On-demand Treatment + LTP (n=18)
Top 2	24%	25%	22%
Completely – I could not do my job at all	14%	17%	11%
6	10%	8%	11%
4	24%	21%	28%
3	33%	38%	28%
2	19%	17%	22%
Not at all – I could do my job as usual			
Bottom 2	52%	54%	50%
Mean (SD)	2.7 (1.3)	2.7 (1.3)	2.6 (1.3)
Median (IQR)	2 (2,3)	2 (2,3.5)	2.5 (2,3)

- Twenty (48%) participants were moderately to completely unable to do their job due to their last attack (46% On-demand; 50% LTP)



- Average absenteeism was 15% (13% on-demand; 17% LTP)
- In the 40 participants that worked ≥1hr in the 7 days following the attack:
 - Mean impairment (presenteeism) at work was 35% (33% on-demand; 37% LTP)
 - Mean overall work impairment was 39% (36% on-demand; 43% LTP)
- In the full sample, overall activity level mean impairment was 38% (34% on-demand; 42% LTP)
- There is a trend towards more significant impact with LTP users, which may be due to lack of expectation for attacks with LTP use

Conclusions

- Treatment was frequently delayed and often attacks were moderate or severe at the time of treatment
- Despite treatment, HAE attacks were associated with activity impairment and impact on work lives of employed participants resulting in substantial:
 - Impairments in their ability to work
 - Absenteeism
 - Reduced productivity
 - Presenteeism
- The impact was substantial for both patients taking on-demand treatment only and those taking on-demand plus LTP
- Compliance with HAE treatment guidelines may reduce the negative impact of attacks on the work lives of employed participants

Presented

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