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EE157

Cost and Healthcare Resource Utilisation Associated with Chronic Inducible Urticaria: A Targeted Literature Review

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KEY FINDINGS & CONCLUSIONS

- The findings highlight a significant economic burden of CIndU, driven primarily by high medical costs, persistent resource utilisation and productivity impairments.
- While this analysis underscores the substantial economic burden of CIndU, research focusing specifically on the standalone burden of CIndU remains limited.
- Further research is needed to clarify healthcare use, economic impact, and productivity loss in CIndU to guide targeted interventions and policies.

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INTRODUCTION

- Chronic inducible urticaria (CIndU) is characterised by recurrent itchy wheals and/or angioedema triggered by specific external stimuli lasting for >6 weeks.[1]
- CIndU treatment focuses on trigger avoidance and first-line use of standard-dose second-generation H1-antihistamines (sgH1-AHs).[1,2]
- CIndU significantly impacts patients' health-related quality of life and remains poorly controlled with sgH1-AHs.[3]

OBJECTIVE

- A targeted literature review (TLR) was conducted to summarise the available published evidence on costs, healthcare resource use and economic evaluations associated with CIndU, and subsequently highlight relevant knowledge gaps.

METHODS

- A comprehensive TLR was performed using the predefined Population, Intervention, Comparator, Outcome, and Study design (PICOS) criteria (**Figure 1**).
- Search strategies were applied across various databases, including Embase®, Medline®, Cochrane, health technology assessment, and national health service economic evaluation databases from inception to April 2025.
- Additionally, clinical trial registries, key conference proceedings and bibliographies were reviewed.
- Study selection, data extraction, and reporting followed best practices, with only English-language studies included and no geographical restrictions.
- Evidence from included studies was qualitatively summarised.

Figure 1: PICOS framework

Patient	Adult patients aged ≥18 years diagnosed with CIndU or CSU+CIndU
Intervention/Comparator	Studies were not limited based on interventions and comparators
Outcomes	Direct and indirect costs, healthcare resource utilisation (HRU) and economic evaluations
Study design	Observational studies*, economic evaluations (i.e., BIM, CBA, CCA, CEA, CMA, COA, CUA)

*Prospective, retrospective, cohort, cross-sectional, case-control, claims database, registry studies.
BIM: Budget impact analysis; CBA: Cost-benefit analysis; CCA: Cost-consequence analysis; CEA: Cost-effectiveness analysis; CIndU: Chronic inducible urticaria; CMA: Cost-minimisation analysis; COA: Cost-offset analysis; CUA: Cost-utility analysis; PICOS: Population, Intervention, Comparator, Outcome, and Study Design.

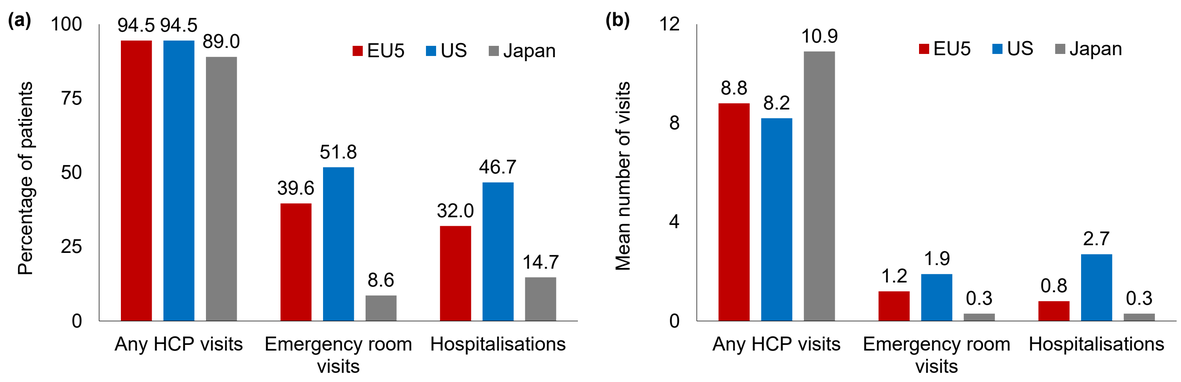
RESULTS

Healthcare resource utilisation

Isolated CIndU

- Across EU5 (France, Germany, Italy, Spain and the United Kingdom), the United States (US), and Japan, 89%-94.5% of CIndU patients had a health care professional (HCP) visits (mean 8.2-10.9 visits in 6 months) (**Figure 2**).[4]

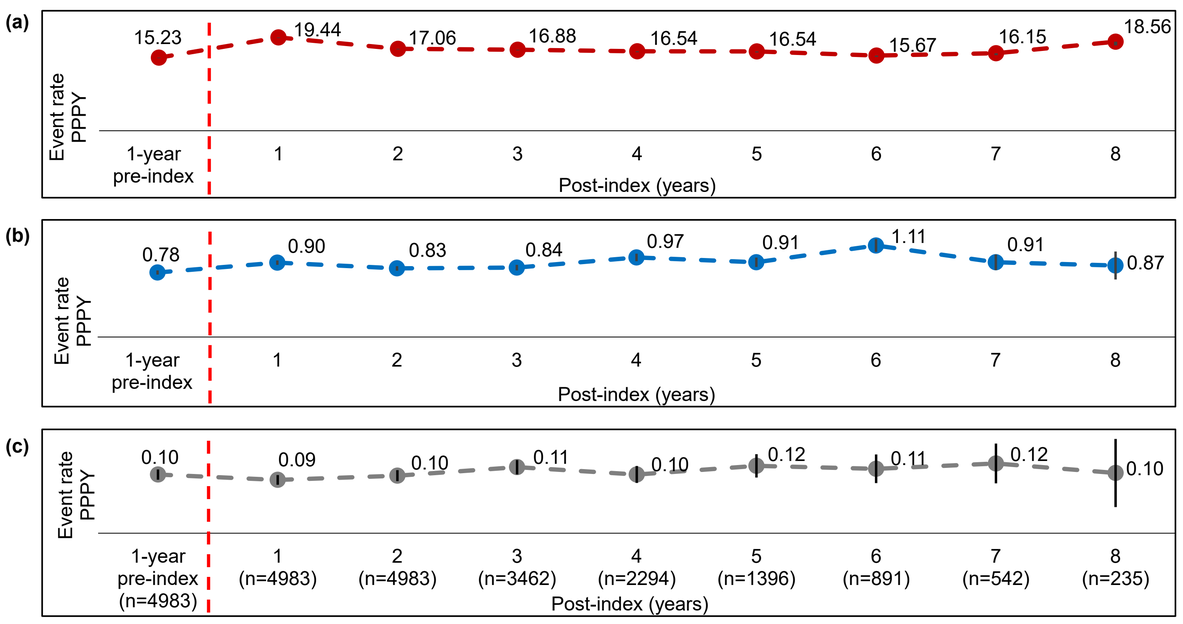
Figure 2: Healthcare resource utilisation in EU5, the US and Japan



HRU was assessed as the percentage of patients who had visits and mean number of visits among patients with visits in the past 6 months. EU5: France, Germany, Italy, Spain and the United Kingdom; HCP: Healthcare provider; US: United States.
Data source: physician diagnosis of CIndU collected from EU5 (2020), US (2019), and Japan (2019) National Health and Wellness Survey, a nationally representative survey.

- A US Optum CDM analysis reported higher rates of all-cause outpatient and ER visits per person per year (PPPY) across 8-year post-index period (**Figure 3a, 3b**) while hospitalisation rate were stable (**Figure 3c**).[5]
- The annualized rate PPPY (95% CI) was 17.60 (17.53–17.66) for outpatient visits, 0.89 (0.88–0.91) for ER visits, and 0.10 (0.10–0.11) for hospitalizations.[5]

Figure 3: All-cause healthcare resource utilisation event rates among patients with CIndU in the US: (a) outpatient visits, (b) ER visits and (c) hospitalisations



CIndU: Chronic inducible urticaria; ER: Emergency room; HRU: Healthcare resource utilisation; PPPY: Per person per year; US: United States.
Note the red line [|] refers to index date indicating date of the first relevant ICD code/diagnosis.
"n" is same for ER, outpatient and hospitalizations.

- Based on a retrospective analysis from Turkey, 48.6% of CIndU patients reported emergency referrals, with rates by subtype: symptomatic dermographism (46.7%), cold urticaria (28.6%), and cholinergic urticaria (33.3%).[6]
- In Italy, general practitioners (60%), and specialist urticaria centers (60%) were the most frequently visited specialties with a mean (SD) of 2.5 (0.7), and 6.7 (7.4) visits, respectively. In Russia, all patients visited allergologists/dermatologists [100%; mean (SD) 2.5 (1.4) visits].[7,8]

CSU+CIndU

- Patients with CSU+CIndU had a higher emergency visits compared with those with isolated CIndU: 44.4% vs 20.0% in Italy and 70.4% vs 48.6% in Turkey (p=0.008). Overall, ER/emergency referrals for CSU+CIndU ranged from 44.4% (Italy) to 70.4% (Turkey).[6,7]

Work productivity and activity impairment

Isolated CIndU

- Significant productivity loss was reported across all WPAI domains in CIndU patients, greater in EU5 than in Japan, with presenteeism having the largest impact, underscoring the burden of working while impaired (**Table 1**).[9,10]

CSU+CIndU

- Patients with CSU+CIndU report moderate productivity loss with greater limitations in daily activities [activity scores [mean % (SD)]: presenteeism 22.9 (24.4), overall work impairment 22.0 (24.4), and activity impairment 36.3 (28.6)].[11]

Table 1: Work productivity and activity impairment

Reference	Country	Study population	Sample size (N)	WPAI domains	Mean % score
Hide 2021[9]	Japan	CIndU	116	Absenteeism	9.8
				Presenteeism	34.4
				Overall work impairment	37.9
				Activity impairment	37
Balp 2022[10]	EU5 countries (France, Germany, Italy, Spain and the United Kingdom)	CIndU	199	Absenteeism	21.9
				Presenteeism	42.4
				Overall work impairment	49.6
				Activity impairment	45.6
Danilycheva 2022[8]	Russia	CIndU	8	Absenteeism (weeks)	1.2

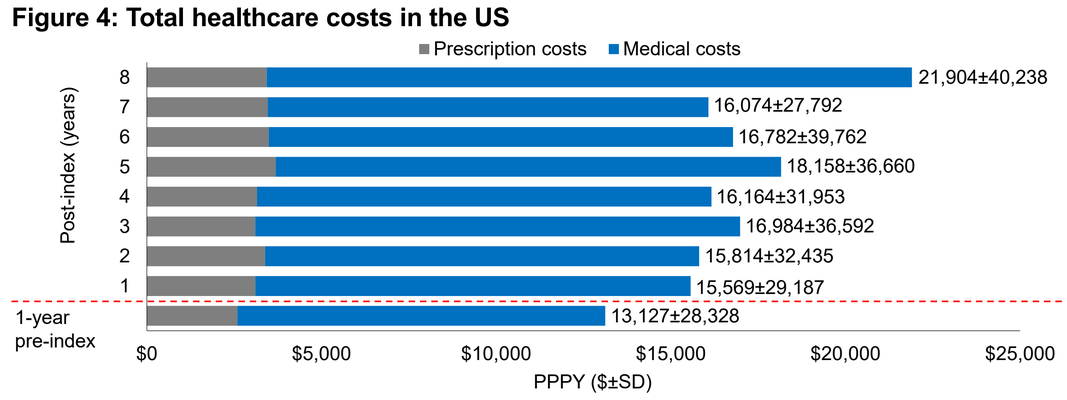
CIndU: Chronic inducible urticaria; WPAI: Work productivity and activity impairment.

COSTS

Isolated CIndU

- In the US, 41% increase in the mean annual total healthcare costs increased was observed from year 1 to year 8 post-index, primarily driven by medical costs, which accounted for 80% of the total (**Figure 4**).[5]
- In Japan, 81.1% of patients with CIndU incurred out-of-pocket costs, with 9.5% spending >¥10,000 per month.[9]

Figure 4: Total healthcare costs in the US



*Total healthcare costs included prescription costs and medical costs.
CIndU: Chronic inducible urticaria; PPPY: Per person per year; SD: Standard deviation; US: United States.
Note: Standardised prescription and medical costs were extracted from the 2020 pharmacy claims and medical claims. Costs are reported as mean costs PPPY.

CSU+CIndU

- In Brazil, chronic urticaria (CSU 43%, CSU+CIndU 38%, CIndU 18%) costs totaled US$210,024.67 (US$185,143.15 direct and US$24,881.53 in indirect) with drug expenses (US$174,697.58), largely driven by omalizumab (US$141,582.91).[12]

Comparative economic burden of CIndU

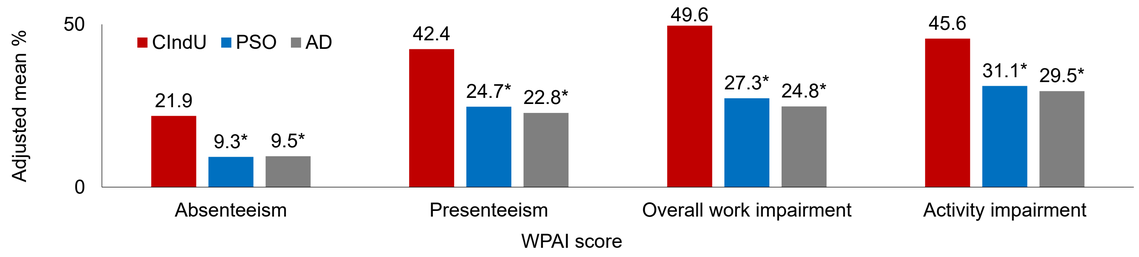
- In the EU5 countries, patients with CIndU reported significantly higher ER visits and hospitalisations (**Table 2**) and WPAI scores (**Figure 5**) compared to patients with psoriasis (PSO) or atopic dermatitis (AD).[10]

Table 2: HRU among patients with CIndU relative to those with PSO and AD

	CIndU (N=199)	PSO (N=2,636)	p value[a]	AD (N=788)	p value[b]
Any HCP					
Visited, % (SE)	96.2 (1.1)	93.0 (0.6)	0.030	94.4 (0.9)	0.200
Number of visits, mean (SE)	6.5 (0.5)	5.9 (0.1)	0.307	6.3 (0.3)	0.794
Emergency room					
Visited, % (SE)	28.7 (3.4)	16.7 (0.8)	<0.001	13.7 (1.3)	<0.001
Number of visits, mean (SE)	0.8 (0.1)	0.3 (0.02)	<0.001	0.2 (0.02)	<0.001
Hospitalisations					
Visited, % (SE)	28.5 (3.4)	9.4 (0.6)	<0.001	6.8 (0.9)	<0.001
Number of visits, mean (SE)	0.5 (0.11)	0.1 (0.01)	<0.001	0.1 (0.01)	<0.001

AD: Atopic dermatitis; CIndU: Chronic inducible urticaria; HCP: Healthcare provider; HRU: Healthcare resource utilisation; PSO: Psoriasis; SE: Standard error.
[a]Comparison between CIndU and PSO.
[b]Comparison between CIndU and AD.

Figure 5: WPAI among patients with CIndU relative to those with PSO and AD



*P<0.001; higher mean % WPAI scores indicate impairment.
Absenteeism, presenteeism and overall work impairment were reported for employed respondents only.
AD: Atopic dermatitis; CIndU: Chronic inducible urticaria; PSO: Psoriasis; WPAI: Work productivity and activity impairment.

Evidence gaps and unmet needs

Evidence gaps	Lack of comprehensive cost evidence, including cost data for sub-types
Indirect impact	Indirect costs underreported
Treatment-specific data	Limited treatment-specific cost breakdown
Economic evaluation	Lack of cost-effectiveness evaluations

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Disclosures

Mukhtar Ahmad Dar, Samprati Avasthi and Ravneet Kaur Kohli are employees of Novartis Healthcare Pvt. Ltd., Hyderabad, India. Panagiotis Orfanos is an employee of Novartis Pharma AG, Basel, Switzerland.

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