

## Supplemental materials for

Lin K, Ya M, Andrew L, et al. primary care physicians' responses to treatment burden in people with type 2 diabetes: a qualitative video analysis in China. *Ann Fam Med.* 2025;23(1):52-59.

Supplemental Table. The Construct of Treatment Burden in People With T2DM		
Themes	Sub Themes	Description
<b>Medical Information</b>	Cumbersome medical information	The complexity and poor user-friendliness of medical information presentation.
	Lack of sources of information	The struggle to find consistent and personalised medical information.
	Biased information	This construct captures the impact of culturally and societally influenced information on the excessive treatment workload or burden. The challenge arises not from a lack of information but rather from cultural and societal distortions of the information available.
<b>Health care System</b>	Health care fragmentation	The challenges arising from system fragmentation are substantial, where patients must navigate a segmented health care system and coordinate treatment across multiple departments and providers.
	Health care provider	The complex challenges in patient-provider interactions and consultations, emphasising constraints in the consultation and the impact of the health care providers' attitude.
	Difficulty with health care access	Emphasises systemic barriers in accessing health care services, influenced by hospital protocols, and external factors like pandemics.
	Insurance or recourse use	The complexities of insurance and health care resource utilisation, such as inconsistent reimbursement processes and bureaucratic obstacles.
<b>Administration</b>	Periodic examination/monitoring	The challenges associated with frequent medical check-ups and the resource-intensive nature of routine monitoring.
	Arranging appointments	The difficulties faced in scheduling medical visits, especially by senior patients who may struggle with technological systems.
	Documentation and paperwork	The complexities of keeping health records and remembering what needs to be done, in terms of compiling, updating, and maintaining the documents.
	Glucose meters	The use of glucose meters in T2DM treatment poses specific administrative challenges, particularly regarding the need for consistent monitoring, the frequency of use, maintenance of the meter, and the discomfort associated with its use in self-management.
<b>Medication</b>	Management of medications	The logistical challenges in adhering to medication management, encompassing issues like medication storage, concerns about shelf-life, and the cognitive demands of various treatment schedules.
	Complexity of medication use	The cognitive load and stress from complex medication use regimens, such as the number of medications, timing, and potential interactions concern.
	Ambivalence towards medication	This construct encapsulates patients' mixed feelings about their diabetes medication, balancing the recognised necessity of these drugs for health management with concerns over dependency.
	Side effects and hypoglycaemia	Deals with the management of medication side effects, particularly the risks and fears surrounding hypoglycaemia.
	Insulin- or injection-related burden	The unique logistical and emotional issues related to insulin or injection therapies, such as concerns of usage, storage, or public stigma.
<b>Lifestyle</b>	Interruption of lifestyle and daily routines	Highlights the lifestyle changes necessitated by T2DM treatment, such as dietary adjustments and change in leisure activities, emphasising the conflict between personal lifestyle choices and the compromises required by the disease.
	Challenges of health behaviours	The difficulties in adhering to recommended health behaviours for T2DM treatment advice, including weight management, physical activity, and dietary compliance, and sheds light on the barriers that hinder the effective implementation of interventions.

<b>Personal resources</b>	Expenses	The financial challenges of T2DM treatment, covering direct medical costs and indirect expenditures such as medications, monitoring, consultations or self-management supplies.
	Time	The substantial time commitment necessary for treatment task, including daily medication or insulin administration, waiting for health care services, and routine monitoring.
	Travel	The logistical hurdles in accessing health care, such as the distance to medical facilities and the added complications brought about by external factors like the pandemic.
<b>Associated factors</b>	Antecedents	encompasses underlying determinants such as health literacy, health locus of control, comorbidities, and socioeconomic status, which influence the individual's perception of T2DM treatment burden.
	Consequences	encompasses the downstream outcomes of T2DM treatment burden, such as the impacts on adherence to treatment, psychological well-being, social life, personal function and overall quality of life due to the treatment burden.

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The construct of treatment burden in people with T2DM presented in Supplemental Table 1 is adapted from the following source:  
 Lin K, Yao M, Andrew L, et al. Exploring treatment burden in people with type 2 diabetes mellitus: a thematic analysis in China's primary care settings. BMC Prim Care. 2024;25(1):88. doi:10.1186/s12875-024-02301-y.

## Supplemental Appendix. Consultation Segment Patient number 36, Female, GP 5:

**Start of Discussions:** 14'37"

*Patient: "I originally planned to see another doctor, but the wait time was long because all the appointments were already fully booked."*

*Doctor: (Stops what she is doing and gestures for the patient to continue speaking.)*

*Patient: "It's really troublesome to queue up at big hospitals. I often end up in the wrong department, and then I have to queue up all over again... Maybe the community hospital would be better since it's smaller."*

*Doctor: (Adjusts the chair, leans forward, and listens carefully.) "Yes, many patients who come here mention that. I noticed you sometimes visit another clinic. Is there anything you think could make the community health care better for you?"*

*Patient: "Yes, but even the community clinic isn't a great option. I haven't visited there for a year because I don't trust it much. No one there really teaches me how to manage my diet; they just give me medication."*

*Doctor: "I can understand why that would be frustrating. What would make it more helpful?"*

*Patient: "I've just had to adapt; it's just the way it is. ....That's why I come here instead... I feel better already just knowing I don't have to keep running around."*

**End of Discussions:** 15'56"

### Coding Breakdown:

- **Initiation:** Patient
- **Issue of Burden:** Health care system (difficulty with health care access & health care fragmentation & health care provider)
- **Condition statement:**
  - "...the wait time was long because all the appointments were already fully booked [**difficulty with health care access**]
  - ... It's really troublesome to queue up at big hospitals. I often end up in the wrong department, and then I have to queue up all over again [**health care fragmentation**]
  - ... No one there really teaches me how to manage my diet; they just give me medication. [**health care provider**]"
- **GP Response:** Initiated by patient and responded by GP
- **Response Approach:** Active listening and nonverbal skills
- **Framework matrix example:**

Active listening and nonverbal skills	Issue of Burden: Health Care System
	<b>Initiation:</b> The discussion was initiated by the patient. <b>Patient Statements:</b> <ul style="list-style-type: none"><li>- "The wait time was long because all the appointments were already fully booked." [Difficulty with health care access]</li><li>- "It's really troublesome to queue up at big hospitals. I often end up in the wrong department, and then I have to queue up all over again." [Health care fragmentation]</li><li>- "No one there really teaches me how to manage my diet; they just give me medication." [Health care provider]</li></ul> <b>GP Response:</b> The GP responded using active listening and nonverbal skills. <b>Count:</b> 1 instance of this response approach.

- **Outcome summary:** After sharing these experiences, the patient felt understood, and the GP committed to addressing these health care needs within the general practice clinic, thereby reducing the patient's burden. Active listening and non-verbal skills were effectively used as an initial step to identify treatment burden issues, which was followed by the implementation of further supportive measures.