Comparative Real-World Retrospective Data Analysis of Comorbid Conditions and Healthcare Utilization for Patients with Myotonic Dystrophy Over a 5-Year Timeframe

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Objective

- Describe the management of myotonic dystrophy (DM) patients compared with matched controls (MCs) in the five years post-diagnosis.

Background

- Myotonic dystrophy types 1 and 2 are rare, dominantly inherited, multisystem diseases that cause progressive muscle weakness and myotonia, along with variable cardiopulmonary, gastrointestinal, and neurological manifestations.[1-3]
- Long-term data on patients with myotonic dystrophy are limited.
- There currently are no approved therapies for myotonic dystrophy.[3]

Design / Methods

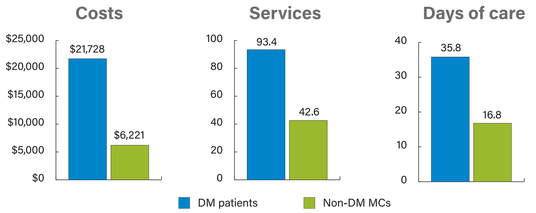
- We used PharMetrics deidentified U.S. claims (Jan 2010—Mar 2021) to retrospectively evaluate care for:

1 DM patient	RATIO	3 non-DM MCs
≥2 DM claims ≥30 days apart		No DM
First diagnosis date	INDEX DATE	Assigned by matching process

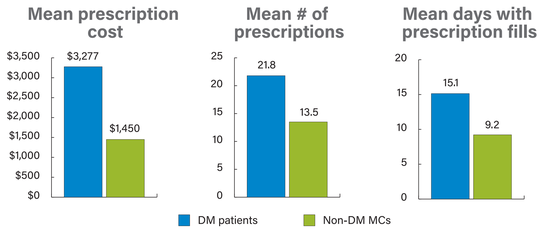
- Cohorts were matched on index month, baseline age, region, gender, plan, and payer types.
- All subjects had five years of data following their index date.
- Costs are the total of member paid plus plan paid. All cost data were adjusted to constant 2020 U.S. dollars.
- Comorbid conditions classified by Agency for Healthcare Research and Quality (AHRQ) specific categories.
- Prescription products classified by Anatomical Therapeutic Classes (ATC). The ATC5 classification data presented on this poster are based on chemical substance.
- Services represent the chargeable activities per visit.
- Data reported are per-member-per-year for cost, number of services and days of service.
- All reported findings are highly significant ($P<0.0001$) unless otherwise noted.

Results

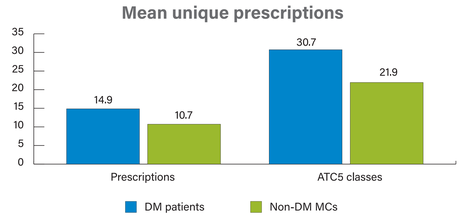
- We identified 892 myotonic dystrophy patients and 2,676 MCs. Both cohorts: mean age 41 years [standard deviation 18] and 55% female.
- In the five years following diagnosis, patients with myotonic dystrophy had higher utilization of medical and prescription services.
  - Healthcare across all locations of care annual mean:



  - Prescriptions:

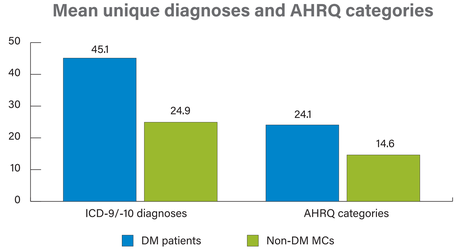


- Compared with controls, persons with myotonic dystrophy used more prescriptions from more classes:

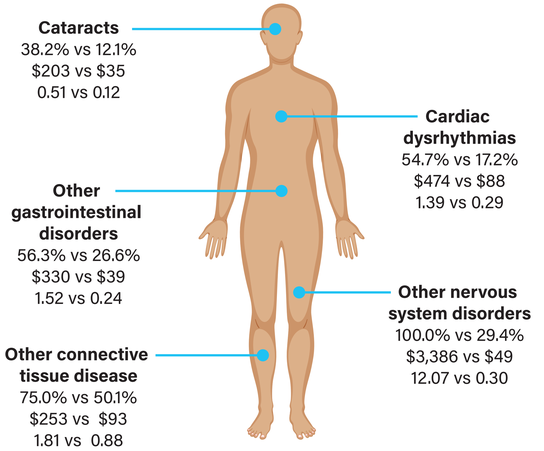


Results (continued)

- Compared with controls, persons with myotonic dystrophy had more comorbid conditions based on both International Classification of Diseases, ninth/tenth revisions (ICD-9/-10) claims and AHRQ categories:



- Myotonic dystrophy patients' per-member-per-year comorbid conditions were higher in prevalence (>20%), costs (>$62) and services (>0.2), including the following (DM vs. MCs):



Results (continued)

- Myotonic dystrophy patients also had significantly higher prevalence, costs and services for the following non-specific conditions:
  - Respiratory failure, insufficiency, arrest (adult).*#
  - Other and ill-defined heart disease.
  - Rehabilitation care, fitting of prostheses, and adjustment of devices.*
  - Genitourinary symptoms and ill-defined conditions.*#

*Cost difference significant at $P\leq0.01$.
#Services difference significant at $P\leq0.01$.

Conclusions

- Healthcare utilization was significantly higher in myotonic dystrophy patients five years post-diagnosis versus controls.
- Utilization likely reflects multi-specialty care in managing myotonic dystrophy.
- The data reflect the multi-system disease burden and financial consequences on myotonic dystrophy patients and their families and provide insight into management that may reduce morbidity and mortality.
- Since there are no approved therapies for myotonic dystrophy, the increased use likely reflects the manifestations of its management.
- The numerous non-specific comorbidity categories identified suggest that presentation of myotonic dystrophy varies across patients, and management and diagnosis varies across clinicians.

References

1. Udd B and Krahe R. *Lancet Neurol.* 2012;11(10):891–905.
2. Gourdon G and Meola G. *Front Cell Neurosci.* 2017;11:101.
3. LoRusso S, et al. *Neurotherapeutics.* 2018;15(4):872–84.

International Society for Pharmacoeconomics and Outcomes Research (ISPOR) 2023 • Boston, MA • May 7 – 10, 2023