Indirect Costs Associated with Preterm Birth in the United States

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OBJECTIVE

- Preterm birth (PTB) accounts for ~10.5% of live births and an excess cost of $25.2 billion in the United States (US).[1]
- This retrospective cohort study estimated indirect costs associated with PTB in the year after birth.

METHODS

- Hospital births from 01/01/2016–09/30/2021 in the Merative™ MarketScan® Commercial Claims and Encounters data were identified.
- 4 Indirect cost outcomes associated with work productivity loss (WPL) were evaluated:
  1. Costs from medically related absenteeism
  2. Costs from disability
  3. Costs from workplace absenteeism*
  4. Overall indirect costs (sum of 1-3)
- Costs, estimated as days × current average daily wage rate ($31.38) for all occupations, were inflated to December 2021 dollars.[2]
- Outcomes were compared between 2 cohorts using Wilcoxon rank sum test (P<0.05 indicated statistical significance):
  1. PTB (<37 weeks gestational age [wGA])
  2. Full-term birth (FTB; ≥37 wGA)
- Cohorts propensity score (PS) matched per outcome; sensitivity and subgroup analyses were conducted.

*A sensitivity analysis was performed using an alternative definition of workplace absenteeism that only included sick leave and Family Medical Leave Act.

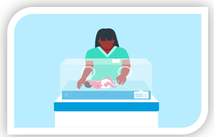
RESULTS: MATCHED SAMPLE

- Cohorts matched well on all prespecified covariates:
  - Delivery year, age group (18-29, 30-35, ≥36 years), region, health benefit plan, Charlson Comorbidity Index (CCI) group (0, 1, 2+)
- After PS match, sample sizes per outcome were:
  - 37,522 eligible for medically related absenteeism
  - 7,880 eligible for short-/long-term disability
  - 1,028 eligible for workplace absenteeism
  - 396 eligible for overall WPL

RESULTS: SELECT BASELINE CHARACTERISTICS

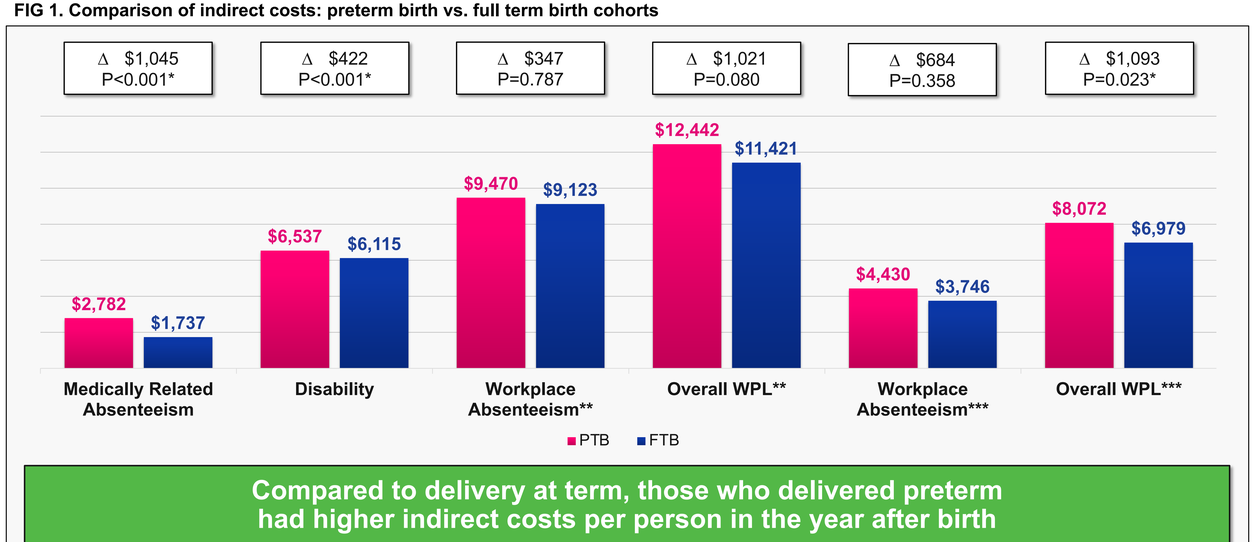
Across WPL outcomes:

- Mean age ~32 years at delivery
- CCI of 0 (prevalence range): 55.4% for medically related absenteeism to 68.7% for overall WPL
- Most births occurred in the South



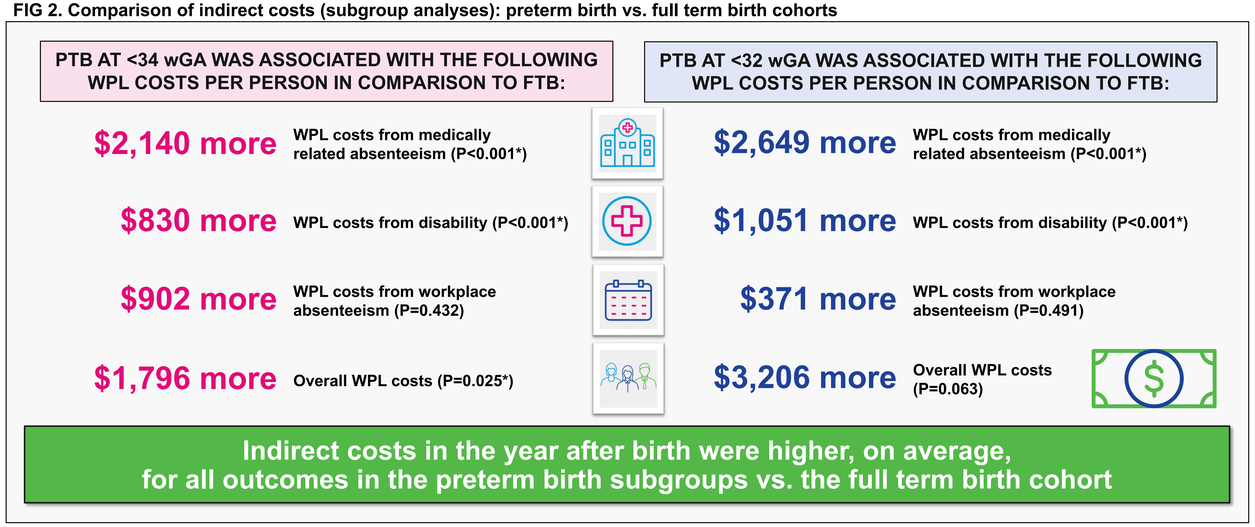
RESULTS: COMPARISON OF INDIRECT COSTS

FIG 1. Comparison of indirect costs: preterm birth vs. full term birth cohorts



Note: *P<0.05 indicates statistical significance. All P values derived from the Wilcoxon rank sum test. **Workplace absenteeism defined as days with sick leave, leave, recreational leave, and FMLA.[3] Overall WPL was an aggregate measure of medically related absenteeism, workplace absenteeism, and disability. ***An alternative definition of workplace absenteeism that only included sick leave and FMLA was examined in a sensitivity analysis. FMLA, Family Medical Leave Act; FTB, full term birth; PTB, preterm birth; WPL, workplace productivity loss

FIG 2. Comparison of indirect costs (subgroup analyses): preterm birth vs. full term birth cohorts



Note: *P<0.05 indicates statistical significance. FTB, full term birth; PTB, preterm birth; wGA, weeks gestational age; WPL, workplace productivity loss

STUDY LIMITATIONS

- Claims data are subject to coding limitations.
- Results may have limited generalizability outside the working population in this study.
- Findings likely underestimate WPL due to lack of data on presenteeism and indirect turnover costs.
- Cost computations assumed an 8-hour workday.
- No data on maternal education, social determinants of health, and race/ethnicity were available, all of which are important risk factors for PTB.

DISCUSSION & CONCLUSION

- This study is the first to show that individuals who deliver preterm in the US incur significant WPL costs in the year following childbirth.
- Indirect costs of PTB are comparable to annual indirect cost estimates reported for other conditions of societal importance,[4] thus highlighting the value of investing in maternal health and the need to consider pregnancy health alongside priority conditions in the US.
- As nearly 58.1 million women (~60%) received their health benefits from employer-sponsored insurance in the US in 2021,[5] the implications of PTB for employers and the workforce emphasize the criticality of improving maternal health and pregnancy outcomes.

DISCLOSURE

- All authors provided intellectual contributions and approve this poster. Study funded by Organon.

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