A Framework for Assessing the Lifetime Economic Burden of Congenital Cytomegalovirus in the United States

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RTI Health Solutions
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BACKGROUND

- 64% to 67% of births in the United States (US) are infected with congenital cytomegalovirus infection (cCMV).1
- 12% with cCMV exhibit disease (cCMVd), and 56% of patients with cCMVd develop permanent physiological impairments: aseptic meningitis, hearing loss (SNHL), vision loss, or neurodevelopmental impairments.2
- No US Food and Drug Administration-approved vaccines or medications exist to prevent acquisition of cCMV during pregnancy or other modes of transmission, but clinical trials are ongoing.3
- Decision makers require estimates of cCMVd’s economic implications to assess the value (e.g., cost-effectiveness) of prevention efforts accurately.

OBJECTIVE

- Develop a conceptual framework to characterize the lifetime economic burden of cCMVd in the US both within and outside the health care (HC) system.
- Identify data gaps to prioritize future research and provide preliminary cost estimates to understand this burden in the US.

METHODS

- An inventory of cost components (direct, indirect, and intangible costs) was developed in accordance with current HC cost-effectiveness research. A conceptual framework was developed to understand the lifetime burden of cCMVd.
- This study supports a research agenda in the field of cCMVd: identifying data gaps to prioritize future research and provide preliminary cost estimates to understand the lifetime economic burden of cCMVd in the US both within and outside the health care system.

DISCUSSION

- The lifetime economic burden of cCMVd in the US is not well understood in the literature, and substantial data gaps exist for estimating this burden.
- While existing cCMVd patient registries may help to fill gaps, challenges exist when using such data (e.g., cost components and the costs before cCMVd diagnosis may not be captured).
- Data from studies of non-cCMVd-specific populations (e.g., cost studies of SNHL) may be useful. However, such studies need to include non-HC and indirect costs and measures of the intangible burden of cCMVd.

RESULTS

- Conceptual Framework
- Gap Analysis
- Table 1: Cost Components for Normal Development with Physiological Abnormality
- Table 2: Cost Components for Developmental Disability in Childhood/Adolescence
- Table 3: Cost Components for Developmental Disability in Infancy/Early Childhood
- Table 4: Cost Components for Permanent Disability in Adulthood

REFERENCES

See handout for references.

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