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## Infant Male Circumcision and Future Health Disparities

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The health benefits of male circumcision (MC) have been extensively documented in observational studies<sup>1</sup> and by randomized controlled trials in Africa showing that MC reduces heterosexual transmission of HIV infection from women to men by 55% – 76%<sup>2,3,4</sup> and provides significant protection against human papillomavirus (HPV) infection.<sup>5</sup> MC is negatively related to prostate cancer in men<sup>6</sup> and to cervical cancer in female partners of men infected with HPV.<sup>7</sup>

The positive health benefits of MC occur primarily in adulthood, yet MC performed in infancy has many advantages over delayed MC.<sup>8</sup> Infant MC carries lower risk,<sup>9</sup> has faster wound healing<sup>10</sup> and is less costly than MC performed on adults.<sup>11</sup> In addition, infant circumcision provides protection at the time of sexual debut, which increases the protective effect against both prostate and penile cancers<sup>6</sup> and also averts the risk of HIV transmission due to resumption of sexual activity prior to healing.<sup>11</sup>

Despite the well-documented health advantages of infant MC, the percentage of male newborns in the U.S. who are circumcised has fallen from 64.1% in 1995 to 55.9% in 2008.<sup>12</sup> This trend implies a decline in the prevalence of MC among adult men from the current level of 79%.

In this issue of the Archives, Kacker et al. forecast the expected changes in prevalence of MC-related infections and the increased treatment costs that would result from reduced MC. They estimate that if the proportion of circumcised American men fell from the current level to the 10% level observed in Western Europe, lifetime HIV prevalence among U.S. males would increase by 12%, HPV by 29%, herpes simplex virus-type-2 by 20% and urinary tract infections in infants by 212%. Women would also experience greater numbers of STIs—an 18% increase in oncogenic HPV and greater than 50% increases in lifetime prevalence of bacterial vaginosis and trichomoniasis. The costs of treating this additional disease burden are substantial—increasing lifetime direct medical costs, discounted to present value, by \$407 per male infant and \$43 per female infant. More than three-quarters of the cost is attributable to increased HIV infection among men.

Documentation that MC not only reduces the burden of STIs for both men and women but also reduces lifetime treatment costs should provide compelling arguments in favor of infant MC. Despite the strong evidence that Kacker et al. provide supporting MC, public policies are moving in the opposite direction, discouraging MC. State Medicaid plans, which currently provide insurance for two-fifths of all births, have been attempting to control ballooning costs by dropping insurance coverage for routine MC.

An analysis of national data representing 417,000 male newborns showed that lack of Medicaid coverage for MC had a significant negative relationship with infant circumcision rates across the states, controlling for a range of demographic and hospital factors.<sup>13</sup> That study projected that if all state Medicaid plans dropped MC coverage, only 38.5% of newborn boys would be circumcised, in contrast to the present rate of 55.9%.

Currently, the Medicaid programs in eighteen states deny insurance coverage for routine circumcision, an “optional” service under federal Medicaid regulations. States’ efforts to reduce current costs by eliminating Medicaid coverage for MC are penny-wise and pound-foolish because investing today in a relatively low cost procedure will avert greater future treatment costs for cancer, HIV and other STIs. The average cost of infant MC is estimated to be a modest \$254;<sup>14</sup> nonetheless, low-income families’ decisions to circumcise their newborn boys are quite responsive to whether or not Medicaid pays for the procedure. Thus, states without Medicaid coverage for MC deprive their low income residents of the opportunity to obtain a significant health advantage for their newborn sons. Indeed, the groups that Medicaid covers are precisely those that experience the greatest prevalence of HIV and other STIs, which MC can effectively avert.<sup>15</sup> In this way, state policies are building in future health disparities that these disadvantaged children will face as adults.

In view of the compelling evidence from randomized controlled trials about the lifelong health benefits of MC and the projections by Kacker et al. on the cost-reducing potential of MC, it is now time for the federal Medicaid program to consider reclassifying MC from an “optional” service to one that all state Medicaid plans will cover for those parents who choose the procedure for their newborn sons. States currently facing severe budgetary pressures due to the recession may be tempted to reduce short-term costs by dropping “optional” benefits, so making MC a required benefit would prevent this sacrifice of long term gains for near-term relief. Such a change would address three important health system goals: improving health by reducing future incidence of HIV and other STIs, reducing disparities in adult health, and lowering treatment costs for STIs in the long run.

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