

December 30, 2022

The Honorable Larry Hogan
Governor
State of Maryland
Annapolis, MD 21401-1991

The Honorable Bill Ferguson
President of the Senate
H-107 State House
Annapolis, MD 21401-1991

The Honorable Adrienne A. Jones
Speaker of the House
H-101 State House
Annapolis, MD 21401-1991

Dear Governor Hogan, President Ferguson, and Speaker Jones:

Pursuant to Insurance Article §15-1501, Annotated Code of Maryland, the Maryland Health Care Commission is pleased to submit the enclosed mandated health insurance services evaluation on revisions to the current mandated coverage for in vitro fertilization (IVF) services (§15-810), as proposed under **HB 142 – Health Insurance – Coverage of In Vitro Fertilization – Revisions**, a bill that was introduced but failed to pass during the 2022 legislative session.

The Commission contracted with Lewis & Ellis, an actuarial consulting firm, to conduct the fiscal, medical, and social impact of this proposed mandate. As part of the evaluation process, Lewis & Ellis, Commission staff, and an MHCC Commissioner with extensive subject matter expertise met with industry stakeholders and a provider group from Shady Grove Fertility Center, also a member of the Maryland Chapter of the American College of Obstetricians and Gynecologists (ACOG). Those group discussions provided valuable insight and information that Lewis & Ellis utilized in their analysis. Lewis & Ellis also used survey data results from some major commercial carriers in Maryland and data from Maryland's medical care data base to prepare this report.

Contingent upon approving the report for submission to the General Assembly, the Commission notes the following policy concerns:

- The language in the proposed 2022 bill would create a very broad set of eligibility requirements that do not leave much room for denial, which could raise costs for all

insureds, especially those who are low income, but benefit a very small percentage (approximately 2%) of the insured population.

- The removal for a religious exemption from the current mandate may cause a social concern that could compromise the success of future IVF legislation.

Finally, the Commission strongly urges the Legislature to proceed with caution when considering the adoption of additional mandated health insurance services given their cumulative deleterious impact on affordability over time despite a minimal impact on premiums of any single mandate at the time of adoption.

Please do not hesitate to contact me at 410-764-3565, if you have any questions.

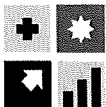
Sincerely,



Ben Steffen
Executive Director

cc: The Honorable Delores G. Kelley, Chair, Senate Finance Committee
The Honorable Joseline A. Pena-Melnyk, Chair, Health and Government Operations Committee
Delegate Marlon Amprey, Member, Environment and Transportation Committee
Patrick Carlson, Committee Staff, Senate Finance Committee
Lisa Simpson, Committee Staff, Health and Government Operations Committee
Sarah Albert, Department of Legislative Services (5 copies)

Enclosure





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Evaluation of Proposed Legislative Revisions to House Bill 142: Coverage of In Vitro Fertilization

PREPARED FOR THE MARYLAND HEALTH CARE COMMISSION

11/22/2022

TRACI HUGHES, FSA, MAAA
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Introduction

PROCESS

Pursuant to Insurance Article 15-501 Annotated Code of Maryland, Lewis & Ellis, Inc. (L&E) was engaged to address the social, medical, and financial impact of the proposed changes to the current mandated insurance coverage of in vitro fertilization. L&E reviewed literature, gathered statistics from public sourcesⁱ, interviewed providersⁱⁱ, conducted insurer surveysⁱⁱⁱ, and gathered data from the Maryland All-Payer Claims Database (APCD). Each of these components have been considered in the evaluation performed.

CURRENT MANDATE SUMMARY

Currently, Insurance Article 15-810 Annotated Code of Maryland mandates the following coverage of in vitro fertilization for individual and fully insured large group carriers:

- Coverage for outpatient services to the same extent as the benefits provided for other pregnancy-related procedures, or to the same extent as other infertility-related services for health maintenance organization (HMOs).
- The benefits are mandated when:
 - A married, heterosexual patient has a history of involuntary infertility with the patient's partner, demonstrated by unprotected intercourse for at least one year failing to result in a pregnancy and the patient has been unable to attain a successful pregnancy through a less costly infertility treatment for which coverage is available.
 - Additionally, the male partner's sperm must be used to fertilize the female partner's oocytes, unless the male partner is unable to produce and deliver functional sperm for reasons other than a vasectomy or other method of voluntary sterilization.
 - A married homosexual patient has a history of involuntary infertility, demonstrated by three attempts of artificial insemination over the course of one year failing to result in a pregnancy.
 - An unmarried patient has a history of involuntary infertility, demonstrated by three attempts of artificial insemination over the course of one year failing to result in a pregnancy.
 - A married or unmarried patient, regardless of sexual orientation, may also demonstrate involuntary infertility if the patients or patient's spouse has any of the following medical conditions:
 - Endometriosis,
 - Exposure in utero to diethylstilbestrol, commonly known as DES,
 - Blockage of, or surgical removal of, one or both fallopian tubes, or
 - Abnormal male factors contributing to the infertility.

ⁱIncluding reports for other states who have considered or passed similar legislation

ⁱⁱThe interview was on October 6, 2022, with one prominent fertility provider group in MD. This provider group performed 90% of IVF cycles performed in MD according to data aggregated and reported by the CDC.

ⁱⁱⁱFive carriers were surveyed, three responded: Aetna, CareFirst, and Kaiser.

- Coverage may be limited to three in vitro fertilization attempts per live birth, not to exceed a lifetime maximum of \$100,000.
- The coverage mandate does not apply if the coverage conflicts with bona fide religious beliefs of a religious organization upon their request.

PROPOSED BILL SUMMARY

House Bill 142 (HB142) would revise the current mandated insurance coverage of in vitro fertilization by:

- Mandating coverage for all expenses related to:
 - Outpatient services,
 - Pre or post in vitro fertilization procedures,
 - Pre-implantation genetic testing, and
 - Prescription drugs.
- Preventing insurers from denying coverage because the policyholder or subscriber or dependent spouse of the policyholder or subscriber is a genetic carrier.
- Removing the coverage mandate exception for religious beliefs of a religious organization.
- Requiring insurers to provide coverage, regardless of other requirements (such as 'proof of infertility', less costly options, etc.), if an appropriate health care provider determines that:
 - The infertility of the patient is imminent,
 - The patient and the patient's spouse have been identified as genetic carriers and at risk for fetal anomaly through natural conception,
 - Delaying invitro fertilization is detrimental to the patient's mental health, or
 - Delaying in vitro fertilization is otherwise not in the best interest of the patient.

Medical Evaluation

BACKGROUND ON INFERTILITY AND TREATMENT

The Centers for Disease Control and Prevention (CDC) defines infertility as being unable to conceive naturally after one year of unprotected intercourse. Approximately, 1 in 5 (19%) women of childbearing age (15-49 years old) experiences infertility. Within this group, over 1 in 4 (26%) women has difficulty carrying a pregnancy to term¹. These women may seek out infertility treatment options.

In vitro fertilization (IVF) is one form of infertility treatment under the umbrella of Assisted Reproductive Technology (ART). ART includes in vitro fertilization-embryo transfer (IVF-ET or IVF), gamete intrafallopian transfer (GIFT), zygote intrafallopian transfer (ZIFT), and frozen embryo transfer (FET)². All IVF procedures include retrieving both eggs and sperm from the body, combining them, and transferring the resulting embryo(s) into the uterus or freezing the embryo(s) for future use.

Other forms of ART include intrauterine insemination (IUI, also commonly referred to as artificial insemination) and fertility drugs. IUI involves manually injecting sperm into the

uterus without handling eggs outside the body and is often the recommended first step to treating infertility since it is less invasive and less expensive than most other procedures. When a patient or partner has severe infertility or has undergone three to four unsuccessful rounds of IUI, a doctor may suggest trying IVF. While IUI is cheaper, it may take more rounds than IVF to have a successful conception, as the success rate is below the natural conception rate of 20%³.

The history of IVF is brief considering that the first IVF baby was born only 44 years ago in 1978. In initial IVF studies, women experienced natural ovulation cycles and yielded 0.7 oocytes (immature egg cells) per retrieval and a 6% pregnancy rate per cycle⁴. In the 1980's, studies were done on stimulating the ovarian follicles to produce more eggs. These methods proved successful, improving to 2.1-2.6 oocytes per retrieval resulting in a 24% pregnancy rate in 1983. This is now a common practice in IVF procedures that is continually improving to provide patients with the highest chance of conceiving.

A common practice with IVF is pre-implantation genetic screening and diagnosis (PGS or PGD). PGS is frequently used for those of advanced maternal age (over 35 years old) and those diagnosed with recurring pregnancy loss. PGD is also typically used when either or both genetic parents carry a mutation, like the ones linked to cystic fibrosis or Huntington's disease. If the genetic parents do not know their carrier status, PGS is also used to determine carrier status. In cases where one or both genetic parents is a genetic carrier, testing is done to ensure the trait has not been passed on to the embryo after fertilization, but prior to implantation.

While there is not a stated definition of "genetic carrier" within the proposed mandate, based on insurers' survey responses, provider interviews, and literature, "genetic carrier" is commonly used to indicate:

- A person without signs or symptoms of a disease but carries a recessive trait for the disease,
- Having one normal and one abnormal copy of a gene for a disease that a person is (most commonly) asymptomatic for but can pass down to a child, or
- An individual carrying a gene mutation for a disease they do not show symptoms of having.

According to provider interviews, most clinics recommend genetic screening and/or testing specifically to detect the patient's genetic carrier status. This is done primarily for the benefit of the patient because if their partner or selected donor is a carrier for the same illness or disease there is a higher chance the child will be affected. Genetic testing is not required to determine eligibility for insurance coverage in the vast majority of cases, but most patients go through with genetic testing while considering fertility treatment.

MEDICAL EFFECTIVENESS

The success of IVF treatment has become more prevalent since the 1990's. For women under the age of 35, live births per initiated cycle of IVF have increased from 25% to 52%

from 1995 to 2018. This means IVF is the most effective form of fertility treatment, while non-IVF forms of fertility treatment still have relatively low birth rates⁵. The providers that L&E interviewed estimated that, on average around 1.2-1.5 IVF cycles are required to result in a livebirth for patients under the age of 35. For older patients, that average can be as high as 6-8 cycles per livebirth.

Extensive amounts of peer reviewed literature exist on IVF practices, including the impact mandates can have on availability, usage, and effectiveness. A large portion of readings can be found in the Fertility and Sterility Journals by the American Society for Reproductive Medicine (ASRM), the Society for Assisted Reproductive Technology (SART), as well as ART Clinic data from the past 20 years on the CDC and SART websites.

AVAILABILITY AND USAGE OF SERVICES

Due to the Fertility Clinic Success Rate and Certification Act, all ART clinics are required to report IVF data to the CDC. Currently, 2019 is the most recent year of complete data. Based on public CDC data, there were 448 fertility clinics in the United States that performed approximately 331K IVF procedures in 2019

In Maryland (MD) there were eight different fertility clinics that performed approximately 15K IVF procedures in 2019. Therefore, Maryland accounts for approximately 5% of IVF cycles performed⁶ despite having approximately 2% of the overall US population^{iv}.

Five percent of the 2019 IVF cycles in Maryland (seven percent nationwide) were cycles where all retrieved eggs and embryos were frozen for future use rather than for prompt transfer into the uterus. In the US, there were 78K live births resulting in 84K infants born from 2019 IVF cycles, making up 2% of all infants born in the US, which has been a steady portion in recent years.

Social Evaluation

POPULATION UTILIZATION

There are 1.4M women of childbearing age in Maryland⁷ and in 2019 there were 4K IVF deliveries according to the CDC. That is an annual IVF delivery rate of 0.3%. However, not all IVF utilization produces a delivery. Under current coverage levels, the insurers that L&E surveyed reported utilization rates between 0.3%-0.6%, which is consistent with the CDC data.

INSURANCE COVERAGE

Currently, 17 states have mandates pertaining to insurance coverage of infertility services. While a few states only require insurers to offer at least one plan covering some infertility

^{iv}According to the CDC website, two of the Maryland clinics either did not submit data or it was not approved by the clinic's Medical Director.

services, the majority require insurers to cover some infertility services for all plans. Among the states that do not have mandates, nine of them have a “benchmark plan” providing coverage for some fertility services for most individual and small group plans⁸.

Some studies show that, in general, the usage of ART services increases with increased coverage. The CDC considers four states to have “comprehensive coverage” for IVF, and in 2016, 3 out of 4 of those states’ ART utilization was 1.5 times the national utilization rate⁹. A much older, separate study in Massachusetts showed IVF utilization increased after their IVF mandate went into effect, but it did not result in overutilization by patients with low chances of successful pregnancy¹⁰.

Based on insurers’ responses, individual and fully insured large group plans have IVF coverage for which deductibles may apply, and the standard coinsurance is 50% for outpatient services. Some insurers include coverage for IVF drugs based on the plan design cost sharing for prescription drugs (including the largest insurer that was surveyed), coverage for diagnostic testing, and/or coverage for costs associated with freezing fertilized embryos for future use. These additional coverages are more common in the large group market, since large group benefits are typically more customizable than other markets. Coverage is limited to three IVF attempts per live birth and \$100,000 lifetime limit.

HB142’s proposed revisions would prevent an insurer from denying coverage to a genetic carrier. If both parents are genetic carriers for a disease, their child has a $\frac{1}{4}$ (25%) chance of having that disease. There is a $\frac{1}{2}$ (50%) chance their child will be a carrier for the disease like the parents. Some patients who are genetic carriers and are aware of the risk it can pose to their children will not actively try to conceive but seek out IVF treatments with donor eggs and/or sperm. These couples are more likely to be denied coverage due to the current mandate verbiage that requires a patient who is married to an individual of the opposite sex to “demonstrate infertility exclusively by means of a history of unsuccessful heterosexual intercourse.” Currently, the provider must go through the process of providing a letter of medical necessity to appeal the coverage denial in hopes of securing coverage for the patients’ IVF treatment. Under the proposed bill this requirement can be superseded by an appropriate health care provider due to the genetic carrier designation and posed threat of natural conception.

The providers interviewed stated that even when a carrier does not cover IVF genetic testing via the patient’s plan, the carrier usually covers the testing with a letter or call from the provider. The testing is intended to detect chronic diseases which are generally more expensive to an insurer if the embryo ultimately results in a live birth of a person with such a chronic disease compared to the cost of the genetic testing.

Regarding self-funded employer groups who employ at least 500 employees, providers offer the coverage option with no major differences to the coverage explained above. The extent to which these self-funded employers elect the benefit was inconclusive with no consistent answer among the insurers surveyed.

There is no current mandate for small group plans to offer coverage for IVF treatment and that is not one of HB142's proposed revisions. Currently the surveyed insurers do not offer IVF coverage to small group plans.

BARRIERS AND DISPARITIES

Barriers that cause disparities in the use of infertility services include costs of medical services, lack of insurance coverage, cultural stigmas, and a lack of information about the options and solutions for treating infertility.

Most patients go through two or more IVF cycles before conceiving¹¹, although this number does tend to increase with the patients' age. The providers L&E interviewed estimated the current cost of one cycle of IVF for a non-insured patient to be approximately \$20K. This estimate is for all costs, including medications. While insurance companies will often negotiate the price of medical care down, IVF for an insured patient receiving care within their provider network can still cost up to \$14K per cycle. Although, some of that cost may be paid by the insurer based on the plan's cost-sharing parameters.

Comparing these estimates with the Census Bureau's 2021 Maryland household income estimate, undergoing IVF without insurance coverage would likely cost a Maryland household 13% to 33% of an average annual household income of approximately \$120K¹² (the range representing 1-2 IVF cycles). Additionally, 42% of Maryland households have an annual income of \$75K or less, which means IVF without insurance coverage would likely cost between 20% to 53% or more of annual income for those households (the range representing 1-2 IVF cycles). To put this into perspective, according to the Bureau of Labor Statistics Consumer Expenditure Survey, the average American spends 29% of net income on housing, 15% on insurance, social security, and pension, 14% on transportation, 11% on food, and 2% on clothing¹³. This leaves 29% of income remaining for other items.

Data from the National Survey of Family Growth (NSFG) shows that infertility services are much more likely to be used by married, older, non-Hispanic white, affluent, and highly educated women than any other group. Even though the increasing number of states that mandate insurance coverage for IVF is promising for creating greater access to care for general populations, there is no clear evidence showing that these mandates have diminished the disparity for rates of infertility treatment across race or socioeconomic status¹⁴. Socioeconomically, it is suspected that this is due to mandates generally applying to only those who are privately insured (not publicly insured or uninsured), and mandates generally not requiring coverage with no cost-sharing (which results in a material portion of the cost being the insured's responsibility). Some studies¹⁵ have looked at "equal-access" subpopulations like women in the military with the same type and level of health insurance coverage and found no disparity between non-Hispanic white and black women. In those subpopulations though, Hispanic women still demonstrate lower utilization than non-Hispanic white women.

Financial Evaluation

In order to estimate the financial impact of the proposed mandate, L&E began by evaluating insurer survey responses, provider interview responses, and publicly available sources. L&E used the collected information and data to estimate low-end, high-end, and mid-range assumptions for each variable that could impact cost. The ranges for each variable were then used to calculate the final estimated aggregate cost range for the mandate's financial impact.

While L&E selected specific assumptions to develop a range of estimated fiscal impact, the range is not intended to represent only the three low-, mid-, and high- scenarios illustrated. Each range is intended to capture the various uncertainties inherent in each assumption and to provide an estimated range of potential outcomes. Therefore, the final estimated range captures many scenarios and sets of assumptions.

Each of the following sections discuss the data used to inform each assumption evaluated by L&E.

IVF UTILIZATION PRE-MANDATE

As discussed previously, 2019 data from the CDC indicated an annual IVF delivery rate of 0.3% in Maryland. However, not all IVF utilization produces a delivery. The insurers that L&E surveyed reported utilization rates between 0.28%-0.58% under the current coverage levels, which is consistent with the CDC data. Based on the underlying data, L&E selected the following assumption range for the IVF utilization pre-mandate:

Assumed IVF Utilization Pre-Mandate		
Low	Mid	High
0.280%	0.430%	0.580%

IVF MANDATE INDUCED UTILIZATION

As discussed previously, the CDC considers four states to have “comprehensive coverage” for IVF, and in 2016, 3 out of 4 of those states' ART utilization was 1.5 times the national utilization rate. In other words, the mandates appear to induce a 50% increase in utilization. Some research suggested that IVF mandates increase utilization as much as 200%-300%¹⁶. L&E notes that HB142 would expand coverage that already exists in MD rather than introducing coverage where none existed. Therefore, HB142 is not likely to induce utilization at levels as high as a mandate that would introduce coverage.

L&E reviewed an analysis of a California Assembly Bill performed in 2020¹⁷ which estimated the impact of mandating IVF benefits in California. That analysis estimated a 10% induced utilization (also referred to as pent-up demand) due to the introduction of the

coverage mandate. Based on the research, L&E selected the following range for the IVF mandated induced utilization assumption:

Assumed IVF Mandate Induced Utilization		
Low	Mid	High
0.0%	1.5%	3.0%

The assumed induced utilization is due to:

- Decreased insured out-of-pocket costs due to the coverage expansion which includes mandated coverage for diagnostic testing and prescription drugs.
- The removal of the exception for religious organizations. Approximately, 0.0%-0.2% of covered organizations currently utilize this exception clause based on the insurer survey.
- The clause allowing health care providers to supersede the mandate's pre-requisite requirements under certain circumstances. Regarding this clause, the providers interviewed stated that this clause would not be utilized often. The types of scenarios that they provided as examples were:
 - A case for which the hormones involved in allowing natural conception (e.g., removing birth control pills which can be used to regulate hormones) affect the mental health of the patient. The providers stated that this type of scenario was not common.
 - For older women, providers could target a shorter waiting period or number of attempts using alternative (non-IVF) methods, because the chances of success decrease rapidly over time for older women ("infertility of the patient is imminent").
 - This is not likely to drastically increase utilization due to lower success rates for non-IVF methods and lower success rates for all infertility treatments for older women (i.e., the IVF utilization may be done ~3-6 months earlier with the proposed clause, but IVF likely would have been ultimately utilized anyways).

IVF COST PER CYCLE (INCLUDING DRUG VS NON-DRUG COST PER CYCLE)

As discussed previously, the providers L&E interviewed estimated the current cost of one cycle of IVF for a non-insured patient to be approximately \$20K, including medications^v. While insurance companies will often negotiate the price of medical care down, IVF for an insured patient receiving care within their provider network can still total up to \$14K according to the providers L&E interviewed. This would imply a 35% network discount,

^v The provider cost estimate of \$20K, including medication and prior to insurer discounts, is consistent with other publicly available sources^{8,16}.

which aligns with L&E’s general knowledge of network discounts levels (though publicly available data on such discounts is limited).

The providers interviewed indicated that medications account for approximately \$3-7K of the total IVF cycle cost. The insurer survey responses showed a non-drug cost per cycle of \$2-6K. Additionally, one insurer that standardly provides IVF drug coverage reported an IVF drug cost of approximately \$8,300 per cycle. L&E utilized this information to inform the assumed split between drug costs and non-drug costs, which is necessary for applying cost-sharing assumptions pre- and post- mandate, as discussed in more detail later in this report.

The following table shows the range of assumptions selected by L&E for the IVF cost per cycle.

Assumed IVF Cost per Cycle After Insurer In-Network Discount			
	Low	Mid	High
Non-Drug Cost	\$2,000	\$5,000	\$6,000
Drug Cost	\$3,000	\$5,650	\$8,300
Total Cost	\$5,000	\$10,650	\$14,300

NUMBER OF CYCLES NEEDED PER LIVE BIRTH

The CDC’s 2019 Maryland data implies an average of 2.2-2.9 cycles per live birth when using the percentage of retrievals resulting in a live birth. However, when using the information regarding total non-preservation cycles and deliveries, an average of 3.8 cycles per live birth is implied by the data. L&E notes that the mandate allows a maximum coverage limit of 3.0 IVF attempts per live birth and the insurer survey responses indicated that this coverage limit is utilized by the insurers. Based on the underlying data, L&E selected the following range for the IVF cycles per live birth assumption:

Assumed Number of IVF Cycles per Live Birth		
Low	Mid	High
2.0	2.2	2.4

INSURER COST-SHARING PRE-MANDATE AND POST-MANDATE

The table below outlines L&E’s understanding of IVF cost-sharing pre- and post-mandate based on insurer survey responses and provider interviews.

	Pre-Mandate Cost-Sharing	Post-Mandate Cost-Sharing
Outpatient Services	Generally, 50% coinsurance, after any applicable deductible. Insurer cost-share may increase if elected by a large group custom plan design.	Generally, 50% coinsurance, after any applicable deductible. Insurer cost-share may increase if elected by a large group custom plan design.
Pre- or Post- IVF Procedures	Pre- or Post- IVF procedures, outside of diagnostic/genetic testing are not common. Such procedures may be covered depending on the insurer.	Generally, 50% coinsurance, after any applicable deductible. Insurer cost-share may increase if elected by a large group custom plan design. If the procedure is inpatient, it may be covered based on the plan design.
Pre-Implantation Genetic Testing	May or may not be officially covered by policy language, but in cases where it is not covered, it is usually covered after provider call or letter.	Covered based on the plan design coverage for lab testing.
Prescription Drugs	May be covered depending on the insurer, plan design, and/or if elected by a large group custom plan design.	Covered based on the plan design coverage for prescription drugs.

Regarding pre-mandate prescription drug cost-sharing, two of the three insurers (including the largest insurer) surveyed stated that they typically covered IVF drugs. Detailed data from the largest insurer showed that prescription drugs were typically covered with only a small member cost-sharing copay of \$0-\$20, with an overall average insurer cost share of approximately 96%.

Based on the information provided, L&E selected the following assumptions for the Insurer Cost-Sharing Pre- and Post- Mandate:

Assumed Insurer Cost-Sharing			
	Low	Mid	High
Non-Drug Insurer Cost-Share Pre-Mandate	45%	50%	55%
Drug Insurer Cost-Share Pre-Mandate	50%	65%	80%
Non-Drug Insurer Cost-Share Post-Mandate	45%	50%	55%
Drug Insurer Cost-Share Post-Mandate	85%	90%	95%

MARYLAND TOTAL CLAIMS COSTS PMPM

Total claims cost data was provided to L&E from the Maryland APCD for years 2014-2020. Due to the impact of the COVID-19 pandemic, L&E utilized 2019 claims data as the base year. L&E trended the 2019 paid claims data to 2023 with an assumed paid claims trend of 6.0% per year. The 6.0% assumption was based on the average paid claims trend from 2016-2019. The projected 2023 paid claims per member per month (PMPM) is \$527.88.

POTENTIAL FOR COST SAVINGS

Research suggests that there are two reasons for potential cost savings when IVF coverage is introduced or increased **Error! Bookmark not defined.**¹⁸:

- Access is available to women at a younger age since out-of-pocket costs are reduced.
 - When women access services at a younger age, fewer IVF cycles are necessary per live birth which would result in cost savings.
- When the insured's out-of-pocket costs are higher, more women may choose to transfer multiple embryos at once to try to achieve a successful live birth in fewer cycles. This leads to more IVF pregnancies and deliveries of multiples (twins, triplets, etc.). Pregnancies of multiples are generally higher-risk and more costly.
 - Therefore, with lower out-of-pocket costs, there is less pressure to transfer multiple embryos at once, which would decrease IVF pregnancies of multiples and would result in cost savings.

While L&E acknowledges the potential of long-term cost savings, L&E did not make an explicit cost savings assumption because:

- There is little data on the magnitude of such cost savings, especially regarding the cost savings' relationship to incremental coverage increases.
- Maryland already has some mandated coverage for IVF in the individual and fully insured large group markets, therefore additional cost savings is likely not material.
- L&E believes that the selected range of assumptions capture scenarios in which marginal cost savings could be achieved, even though cost savings was not explicitly assumed.

RESULTING FISCAL IMPACT ESTIMATE

The following table illustrates the range of assumptions selected by L&E and the resulting estimated fiscal impact range.

Assumption	Low	Mid	High
IVF Utilization Pre-Mandate (a)	0.280%	0.430%	0.580%
Mandate Induced Utilization (b)	0.0%	1.5%	3.0%
IVF Utilization Post-Mandate (c)=(b)*(a)	0.280%	0.436%	0.597%
IVF Non-Drug Cost per Cycle (d)	\$2,000	\$5,000	\$6,000
IVF Drug Cost per Cycle (e)	\$3,000	\$5,650	\$8,300
IVF Total Cost per Cycle (f)=(d)+(e)	\$5,000	\$10,650	\$14,300
Average Number of Cycles Needed per Live Birth (g)	2.0	2.2	2.4
IVF Non-Drug Cost per Live Birth (h)=(d)*(g)	\$4,000	\$11,000	\$14,400
IVF Drug Cost per Live Birth (i)=(e)*(g)	\$6,000	\$12,430	\$19,920
IVF Total Cost per Live Birth (j)=(h)+(i)	\$10,000	\$23,430	\$34,320
IVF Non-Drug Insurer Cost-Share Pre-Mandate (k)	45%	50%	55%
IVF Drug Insurer Cost-Share Pre-Mandate (l)	50%	65%	80%
IVF Unit Cost Pre-Mandate (m)=[(h)*(k)]+[(i)*(l)]	\$4,800	\$13,580	\$23,856
IVF Non-Drug Insurer Cost-Share Post-Mandate (n)	45%	50%	55%
IVF Drug Insurer Cost-Share Post-Mandate (o)	85%	90%	95%
IVF Unit Cost Post-Mandate (p)=[(h)*(n)]+[(i)*(o)]	\$6,900	\$16,687	\$26,844
IVF Mandate Cost PMPY (q)= {(p)-(m)}*(a)+{(p)*[(c)-(a)]}	\$5.88	\$14.44	\$22.0
IVF Mandate Cost PMPM (r)=(q)/12	\$0.49	\$1.20	\$1.83
Maryland APCD Total Market Claim Costs PMPM (s)	\$527.88	\$527.88	\$527.88
IVF Mandate Percentage Impact (t)=(r)/(s)	0.1%	0.2%	0.3%

L&E notes that nothing in HB412 would prevent or limit insurers from making cost-sharing or other benefit changes to non-IVF benefits which could ultimately mitigate or eliminate the impact of the increased IVF coverage.

OTHER FISCAL IMPACT ESTIMATES CONSIDERED

In response to the insurer survey, one insurer estimated a 0.3% cost impact, which was mostly attributable to the proposed coverage of IVF prescription drugs. This response was provided by the carrier that indicated IVF prescription drugs were not already covered within their typical plan design and/or policy language.

Cost impact estimates for several states were found for the *introduction* of mandated IVF benefits^{17,18}. While these estimates were not developed for incremental increases in mandated coverage, e.g., for HB142, L&E took these estimates under consideration.

Estimated Cost Impact for the <i>Introduction</i> of Mandated IVF Benefits	
Rhode Island	0.36%
Massachusetts	0.23%-0.95%
California	0.55%-0.79%
Connecticut	0.9%

ASOP 41 Disclosures

The Actuarial Standards Board (ASB), vested by the U.S.-based actuarial organizations^{vi}, promulgates actuarial standards of practice (ASOPs) for use by actuaries when providing professional services in the United States.

Each of these organizations requires its members, through its Code of Professional Conduct^{vii}, to observe the ASOPs of the ASB when practicing in the United States. ASOP 41 provides guidance to actuaries with respect to actuarial communications and requires certain disclosures which are contained in the following.

Identification of the Responsible Actuary

The responsible actuaries are:

- Traci Hughes, FSA, MAAA, Vice President & Senior Consulting Actuary
- David Dillon, FSA, MAAA, Senior Vice President & Principal

These actuaries are available to provide supplementary information and explanation.

Identification of Actuarial Documents

The date of this document is December 19, 2022. The date (a.k.a. “latest information date”) through which data or other information has been considered in performing this analysis is November 17, 2022.

Disclosures in Actuarial Reports

- The contents of this report are intended for the use of the Maryland Health Care Commission. The authors of this report are aware that it may be distributed to third parties. Any third party with access to this report acknowledges, as a condition of receipt, that they cannot bring suit, claim, or action against L&E, under any theory of law, related in any way to this material.
- Lewis & Ellis Inc. is financially and organizationally independent from the health insurers and providers involved in this analysis. There is nothing that would impair or seem to impair the objectivity of the work.
- The purpose of this report is to assist the Maryland Health Care Commission in assessing the medical, social, and financial impact of proposed House Bill 142.
- The responsible actuaries identified above are qualified as specified in the Qualification Standards of the American Academy of Actuaries.
- Lewis & Ellis has reviewed the data provided by the insurers and Maryland Health Care Commission for reasonableness, but the data has not been audited. L&E nor the responsible actuaries assume responsibility for these items that may have a material impact on the analysis. To the extent that there are material inaccuracies

^{vi} The American Academy of Actuaries (Academy), the American Society of Pension Professionals and Actuaries, the Casualty Actuarial Society, the Conference of Consulting Actuaries, and the Society of Actuaries.

^{vii} These organizations adopted identical *Codes of Professional Conduct* effective January 1, 2001.

in, misrepresentations in, or lack of adequate disclosure by the data, the results may be accordingly affected.

- Several of the assumptions made in this analysis are subject to uncertainty and it is not unexpected that actual results could differ from the calculated estimates.
- L&E is not aware of any subsequent events that may have a material effect on the findings.
- There are no other documents or files that accompany this report.
- The findings of this report are enclosed herein.

Actuarial Findings

The actuarial findings of the report can be found in the body of this report.

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