COMMITTEE ON LEGISLATIVE RESEARCH
OVERSIGHT DIVISION

FISCAL NOTE

L.R. No.: 2459H.01I
Bill No.: HB 1154
Subject: Department of Health and Senior Services; Education, Higher; Drugs and Controlled Substances
Type: Original
Date: February 27, 2023

Bill Summary: This proposal creates provisions relating to alternative therapies.

FISCAL SUMMARY

ESTIMATED NET EFFECT ON GENERAL REVENUE FUND				
FUND AFFECTED	FY 2024	FY 2025	FY 2026	Fully Implemented (FY Unknown)
General Revenue	($15,929,770)	($27,526,845)	($27,538,658)	Likely to exceed ($74,348,718)
Total Estimated Net Effect on General Revenue	**($15,929,770)**	**($27,526,845)**	**($27,538,658)**	**Likely to exceed ($74,348,718)**

ESTIMATED NET EFFECT ON OTHER STATE FUNDS				
FUND AFFECTED	FY 2024	FY 2025	FY 2026	Fully Implemented (FY Unknown)
Total Estimated Net Effect on Other State Funds	**$0**	**$0**	**$0**	**$0**

Numbers within parentheses: () indicate costs or losses.

ESTIMATED NET EFFECT ON FEDERAL FUNDS				
FUND AFFECTED	FY 2024	FY 2025	FY 2026	Fully Implemented (FY Unknown)
Total Estimated Net Effect on <u>All</u> Federal Funds	**$0**	**$0**	**$0**	**$0**

ESTIMATED NET EFFECT ON FULL TIME EQUIVALENT (FTE)				
FUND AFFECTED	FY 2024	FY 2025	FY 2026	Fully Implemented (FY Unknown)
General Revenue	5 FTE	5 FTE	5 FTE	5 FTE
Total Estimated Net Effect on FTE	**5 FTE**	**5 FTE**	**5 FTE**	**5 FTE**

☒ Estimated Net Effect (expenditures or reduced revenues) expected to exceed $250,000 in any of the three fiscal years after implementation of the act or at full implementation of the act.

☐ Estimated Net Effect (savings or increased revenues) expected to exceed $250,000 in any of the three fiscal years after implementation of the act or at full implementation of the act.

ESTIMATED NET EFFECT ON LOCAL FUNDS				
FUND AFFECTED	FY 2024	FY 2025	FY 2026	Fully Implemented (FY Unknown)
Local Government	**$0**	**$0**	**$0**	**$0**

FISCAL ANALYSIS

ASSUMPTION

§192.950 – Alternate therapies

Officials from the **Department of Health and Senior Services (DHSS), Division of Administration** state the division cannot absorb the additional workload required by the provisions of §192.150. The provisions of the proposed legislation would require the DHSS to conduct clinical trials for alternative therapies in collaboration with a hospital operated by an institute of higher education in Missouri or a medical center operated by the U.S Department of Veteran Affairs in Missouri. The Division of Community and Public Health (DCPH) would need one (1) FTE Procurement Analyst (One FTE @ $47,196 annual salary) - to accommodate the additional contracts needed for this proposal.

The average cost of phase 1, 2, and 3 clinical trials across therapeutic areas is around $4 million, $13 million, and $20 million respectively. Pivotal (phase 3) studies for new drugs approved by the Food and Drug Administration (FDA) of the United States cost a median of $41,117 per patient. These cost estimates across therapeutic areas were reported by Aylin Sertkaya et al., in a report submitted to the U.S. Department of Health and Human Services: https://aspe.hhs.gov/sites/default/files/private/pdf/77166/rpt_erg.pdf (see Table 1)

Table 1: Total Per-Study Costs (in $ Millions), by Phase and Therapeutic Area [a]

Therapeutic Area	Phase 1	Phase 2	Phase 3	*Phase 1, 2, & 3 Subtotal [d]*	FDA NDA/BLA Review Phase [c]	Phase 4	Total [d]
Anti-Infective	$4.2 (5)	$14.2 (6)	$22.8 (5)	*$41.2 (3)*	$2.0	$11.0 (12)	**$54.2 (10)**
Cardiovascular	$2.2 (9)	$7.0 (13)	$25.2 (3)	*$34.4 (10)*	$2.0	$27.8 (4)	**$64.1 (6)**
Central Nervous System	$3.9 (6)	$13.9 (7)	$19.2 (7)	*$37.0 (6)*	$2.0	$14.1 (11)	**$53.1 (11)**
Dermatology	$1.8 (10)	$8.9 (12)	$11.5 (13)	*$22.2 (13)*	$2.0	$25.2 (7)	**$49.3 (12)**
Endocrine	$1.4 (12)	$12.1 (10)	$17.0 (9)	*$30.5 (12)*	$2.0	$26.7 (6)	**$59.1 (7)**
Gastrointestinal	$2.4 (8)	$15.8 (4)	$14.5 (11)	*$32.7 (11)*	$2.0	$21.8 (8)	**$56.4 (8)**
Genitourinary System	$3.1 (7)	$14.6 (5)	$17.5 (8)	*$35.2 (8)*	$2.0	$6.8 (13)	**$44.0 (13)**
Hematology	$1.7 (11)	$19.6 (1)	$15.0 (10)	*$36.3 (7)*	$2.0	$27.0 (5)	**$65.2 (5)**
Immunomodulation	$6.6 (1)	$16.0 (3)	$11.9 (12)	*$34.5 (9)*	$2.0	$19.8 (9)	**$56.2 (9)**
Oncology	$4.5 (4)	$11.2 (11)	$22.1 (6)	*$37.8 (5)*	$2.0	$38.9 (2)	**$78.6 (3)**
Ophthalmology	$5.3 (2)	$13.8 (8)	$30.7 (2)	*$49.8 (2)*	$2.0	$17.6 (10)	**$69.4 (4)**
Pain and Anesthesia	$1.4 (13)	$17.0 (2)	$52.9 (1)	*$71.3 (1)*	$2.0	$32.1 (3)	**$105.4 (2)**
Respiratory System	$5.2 (3)	$12.2 (9)	$23.1 (4)	*$40.5 (4)*	$2.0	$72.9 (1)	**$115.3 (1)**

Since psychedelic drugs, such as those mentioned in this legislation, (MDMA, psilocybin and ketamine) modulate brain cell activity, cost estimates were developed using the study costs for the central nervous system therapeutic area (row #3). Furthermore, this report was developed in 2014 and cost estimates were inflation-adjusted using the consumer price index (CPI) inflation calculator provided by the Bureau of Labor Statistics (BLS) available at: https://data.bls.gov/cgi-bin/cpicalc.pl. For example: four million dollars (estimated cost of a phase 1 trial) in 2014 would be $5,115,853.5 in 2023 – a 28% increase since 2014.

A 2018 study published in the Journal of American Medical Association (JAMA) – Internal Medicine reviewed pivotal clinical trial cost data from 59 therapeutic agents that were approved by the Food and Drug Administration (FDA) from 2015 to 2016 and derived a median cost estimate of $19.0 million (interquartile range, $12.2 million - $33.1 million). However, the cost of pivotal clinical trials varied greatly by the number of participants and the duration of study. The median cost for pivotal clinical trials with a duration of 26 weeks or greater was $51.7 million – closer to the number in the above table from the HHS report. Therefore, central nervous system estimates in the table above adjusted for inflation were used to come up with cost estimates for this proposed legislation.

Clinical trials are a kind of clinical research designed to evaluate and test new interventions such as psychotherapy or medications. Clinical trials are often conducted in four phases, not including the FDA review process –

Phase 1 - Study Participants: 20 to 100 healthy volunteers or people with the disease/condition. Length of Study: Several months, Purpose – Safety and Dosage;

Phase 2: Study Participants: Up to several hundred people with the disease/condition. Length of Study: Several months to 2 years, Purpose - Efficacy and side effects;

Phase 3: Study Participants: 300 to 3,000 volunteers who have the disease or condition Length of Study: 1 to 4 years Purpose: Efficacy and monitoring of adverse reactions

Phase 4: Post-marketing studies, which are conducted after a treatment is approved for use by the FDA Study Participants: Several thousand volunteers who have the disease/condition, Purpose: Safety and efficacy

The proposed legislation is asking for a fiscal estimate for three years; therefore, the budget sheet has estimates only for Phase 1 and Phase 2 clinical trials and not for the more expensive and time intensive Phase 3 and Phase 4 clinical trials.

Phase 1 clinical trial for three drugs (after inflation adjusted) = $ 5,115,853.55 * 3 = $15,347,560.65;

Phase 2 clinical trial for three drugs (after inflation adjusted) = $ 17,905,487.44*3 = $53,716,462.32.

While Phase 3 and Phase 4 clinical costs are not included in the budget sheet, the following is an estimate for those phases for the three drugs after successful completion of phase 1 and phase 2 at the end of three years:

Phase 3 clinical trial for three drugs (after inflation adjusted) = $24,556,097.06 * 3 = **$73,668,291.18**

FDA – New Drug Application (NDA) review phase (after inflation adjusted) = $ 2,557,926.78*3 = $7,673,780.34

Phase 4 clinical trial for three drugs (after inflation adjusted) = $ 17,905,487.44*3 = $53,716,462.32

The DHSS does not conduct clinical trials nor has any experience conducting clinical trials. DHSS/Office of Epidemiology (OOE) would collaborate with a hospital operated by an institute of higher education in Missouri or a medical center operated by the U.S Department of Veteran Affairs in Missouri and would require at least three (3) FTE to coordinate/oversee clinical trials in collaboration with institutes of higher education. The 3 FTE request is only for the first three years and to set up the clinical trials. Based on literature review of clinical trials, it is estimated that the following minimum staff would be needed for the first three years:

Clinical Study Medical Writer (One FTE @ $70,000 annual salary) – The proposed legislation requires quarterly as well as annual reports on the progress of trials to the legislature. A medical writer would be needed to produce quarterly reports in conjunction with the entities conducting trials.

Clinical Research Physician (One FTE @ $161,225 annual salary) – While the clinical trials will be conducted in collaboration with institutes of higher education, it is essential for DHSS to hire a clinical research physician so that they can coordinate with the institutes on clinical trial plans and update DHSS / legislature accordingly on the progress and handle any clinical questions / issues from stakeholders / legislators on clinical trials.

Clinical Project Manager (One FTE @ $79,712 annual salary)- While the clinical trials will be conducted in collaboration with institutes of higher education, it is essential for DHSS to hire a clinical project manager as well who will work the physician to ensure plans / protocols are being implemented in accordance with the terms and conditions set forth for clinical trials, handle unexpected issues that arise during clinical trials and to act as a liaison between DHSS / clinical trial site staff to ensure clinical trials to meet scientific standards and government regulations.

Administrative Support Professional (One FTE @ $44,436 annual salary)- - to support the managers.

Oversight does not have any information to the contrary. Based on an internet search of the average length of time for clinical trials, it is possible for them to go on for 10-15 years. Therefore, for fiscal note purposes Oversight assumes costs could exceed the $73,668,291 provided by DHSS for Phase 4 Clinical Trials. It is unknown in what year the provisions of this proposal would be concluded.

Officials from the **Attorney General's Office**, the **Department of Commerce and Insurance**, the **Department of Mental Health** and the **Department of Public Safety – Missouri Veterans Commission** each assume the proposal will have no fiscal impact on their respective organizations. **Oversight** does not have any information to the contrary. Therefore, Oversight will reflect a zero impact in the fiscal note for these agencies.

Officials from the **University of Missouri System** and the **Office of the State Courts Administrator** did not respond to **Oversight's** request for a statement of fiscal impact.

FISCAL IMPACT – State Government	FY 2024 (10 Mo.)	FY 2025	FY 2026	Fully Implemented (FY Unknown)
GENERAL REVENUE FUND				
Costs – DHSS (§192.950)				Likely to exceed...
Personal service	($23,777)	($398,751)	($406,726)	($406,726)
Fringe benefits	($186,821)	($227,111)	($230,094)	($230,094)
Equipment and expense	($69,611)	($42,751)	($43,607)	($43,607)
Contracts – Phase 1	($15,347,561)	$0	$0	$0
Contracts – Phase 2	$0	($26,858,231)	($26,858,231)	$0
Contracts – Phase3+	$0	$0	$0	($73,668,291)
Total Costs - DHSS	($15,929,770)	($27,526,845)	($27,538,658)	($74,348,718)
FTE Change - DHSS	5 FTE	5 FTE	5 FTE	5 FTE
ESTIMATED NET EFFECT ON THE GENERAL REVENUE FUND	**($15,929,770)**	**($27,526,845)**	**($27,538,658)**	**Likely to exceed ($74,348,718)**
Estimated Net FTE Change on the General Revenue Fund	5 FTE	5 FTE	5 FTE	5 FTE

FISCAL IMPACT – Local Government	FY 2024 (10 Mo.)	FY 2025	FY 2026	Fully Implemented (FY Unknown)
	$0	**$0**	**$0**	**$0**

FISCAL IMPACT – Small Business

No direct fiscal impact to small businesses would be expected as a result of this proposal.

FISCAL DESCRIPTION

This bill requires the Department of Health and Senior Services, in collaboration with a Missouri university hospital and medical center operated by the Department of Veterans Affairs in Missouri, to conduct a study on the efficacy of using alternative medicines and therapies, including, but not limited to, the use of 3, 4- methylenedioxymethamphetamine (MDMA), psilocybin, and ketamine, for the treatment of patients suffering from post-traumatic stress disorder, treatment-resistant depression, substance abuse disorders, or who require end-of-life care.

The bill specifies that such study shall include a clinical trial of psilocybin, as well as a literature review and the submission of various reports. No person participating in the clinical trial shall be subjected to criminal or civil liability or sanction for the participation in the clinical trial, except in cases of gross negligence or willful misconduct.

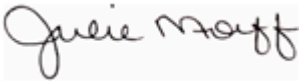
The Department of Health and Senior Services shall prepare and submit to the Governor, Lieutenant Governor and the General Assembly: (1) Quarterly reports on the progress of the study; and (2) A written report, submitted one year after the study begins, containing the results of the study and any recommendations for legislation.

The Department shall maintain the confidentiality of any personally identifiable protected information collected during the clinical trial.

This legislation is not federally mandated, would not duplicate any other program but would require additional capital improvements or rental space.

SOURCES OF INFORMATION

Attorney General's Office
Department of Commerce and Insurance
Department of Health and Senior Services
Department of Mental Health
Department of Public Safety –
Missouri Veterans Commission



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