

Modern Approaches for Cumulative Excess Lifetime Cancer Risk: FDA's Use in ENDS Premarket Reviews

Jenna Guynn, PhD, DABT | Senior Director – Scientific & Regulatory Affairs

Contents Disclaimer



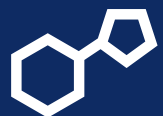
PRESENTATIONS ARE INTENDED FOR INFORMATIONAL PURPOSES ONLY. STATEMENTS OF FACT AND OPINIONS EXPRESSED ARE THOSE OF THE PRESENTER ONLY, AND ARE NOT NECESSARILY THE OPINIONS, POSITIONS OR POLICIES OF REYNOLDS AMERICAN INC. OR ITS AFFILIATES (“REYNOLDS”). REYNOLDS DOES NOT ENDORSE OR APPROVE, AND ASSUMES NO RESPONSIBILITY FOR THE CONTENT, ACCURACY OR COMPLETENESS OF THE INFORMATION PRESENTED. THESE MATERIALS MAY PRESENT CONCEPTS, EXECUTIONS, IDEAS AND THEMES THAT ARE NOT LEGALLY PERMISSIBLE (EITHER IN WHOLE OR IN PART) OR ACCEPTABLE IN CERTAIN JURISDICTIONS, OR WHICH MAY INFRINGE THIRD-PARTY RIGHTS. THIS PRESENTATION MAY CONTAIN REFERENCES TO LAWS AND REGULATIONS THAT MAY CHANGE OVER TIME AND SHOULD BE INTERPRETED IN THAT CONTEXT.

THIS PRESENTATION IS INTENDED FOR SCIENTISTS AND POLICYMAKERS. WE ENCOURAGE PERSONS INTERESTED IN TOBACCO HARM REDUCTION TO CONSIDER ALL POINTS OF VIEW AND SOURCES OF INFORMATION. REYNOLDS DOES NOT MAKE HEALTH CLAIMS REGARDING ITS BRANDS. NOTHING CONTAINED HERE SHOULD BE MISCONSTRUED TO THE CONTRARY. TO THE EXTENT THAT THIRD-PARTY SOURCES ARE REFERENCED, NEITHER THE PRESENTER NOR REYNOLDS IS RESPONSIBLE FOR THE CONTENT OF REFERENCED SOURCES AND THE VIEWS EXPRESSED MAY NOT REPRESENT THE VIEWS OF THE PRESENTER OR REYNOLDS. NO TOBACCO PRODUCT IS SAFE, ALL TOBACCO PRODUCTS CONTAINING NICOTINE ARE ADDICTIVE. YOUTH SHOULD NEVER USE TOBACCO. SMOKERS WHO ARE CONCERNED ABOUT THEIR HEALTH SHOULD QUIT.

THE TOPICS, CONCEPTS AND OTHER INFORMATION DISCUSSED HEREIN ARE NOT FINAL, ARE SUBJECT TO CHANGE AND/OR CANCELLATION AND MAY BE FOR ILLUSTRATIVE OR THEORETICAL PURPOSES ONLY. NO DEFINITIVE PLANS OR COMMITMENTS SHOULD BE INFERRED FROM THESE MATERIALS AND ANY PROPOSED PLANS OR COMMITMENTS ARE SUBJECT IN ALL RESPECTS TO APPLICABLE INTERNAL REVIEW AND GOVERNANCE REQUIREMENTS AND LAWS AND REGULATIONS IN RESPECTIVE JURISDICTIONS.



FDA's Use of Cumulative Excess Lifetime Cancer Risk (ELCR_c) in ENDS Premarket Reviews



What is Excess Lifetime Cancer Risk (ELCR)?

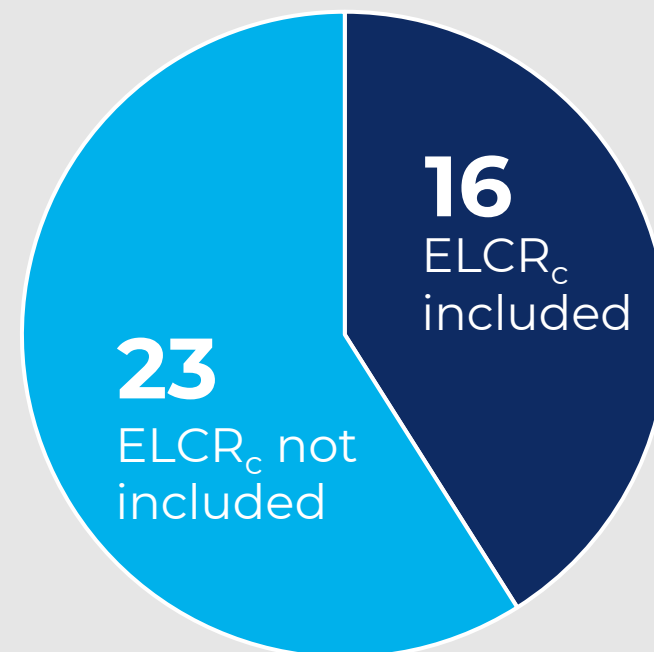
$$ELCR = \frac{\text{Daily Exposure}}{\text{Potency Value}}$$



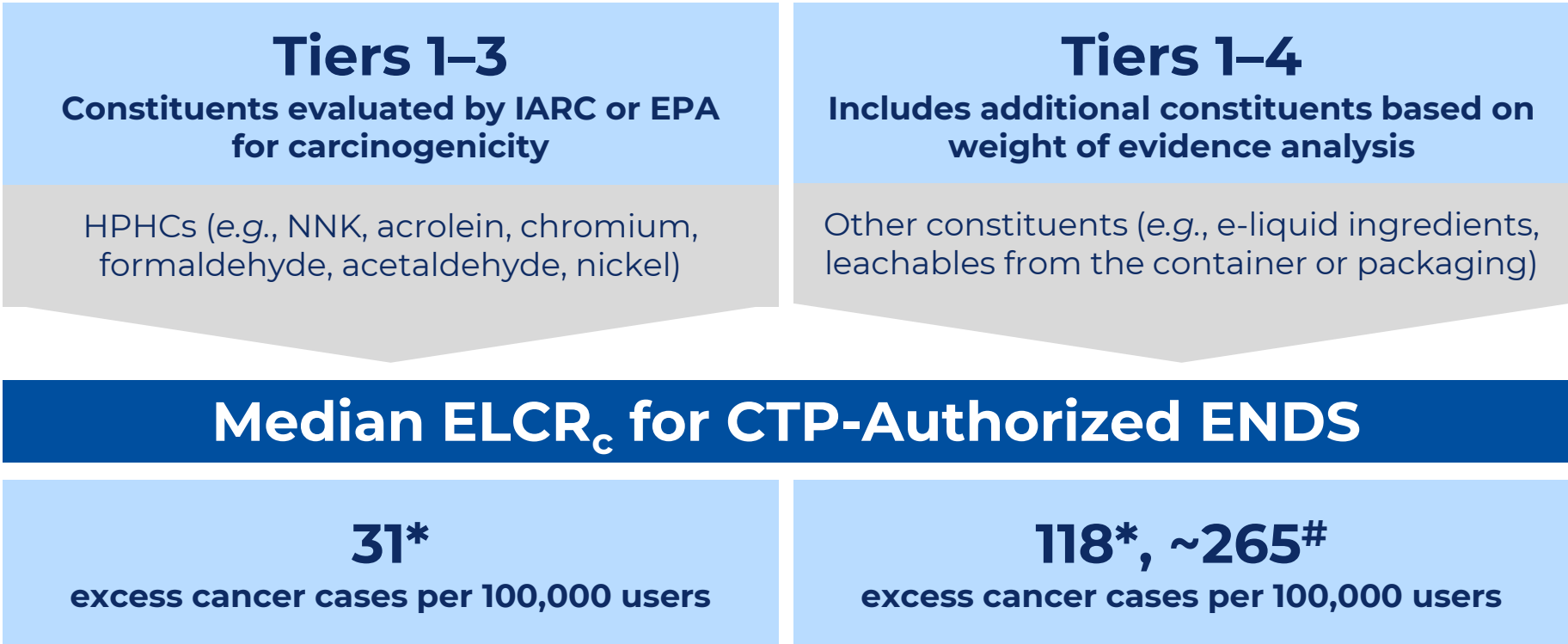
How is Cumulative ELCR (ELCR_c) Calculated?

$$ELCR_c = \sum_{i=1}^N ELCR_i$$

ENDS Products with Marketing Granted Orders



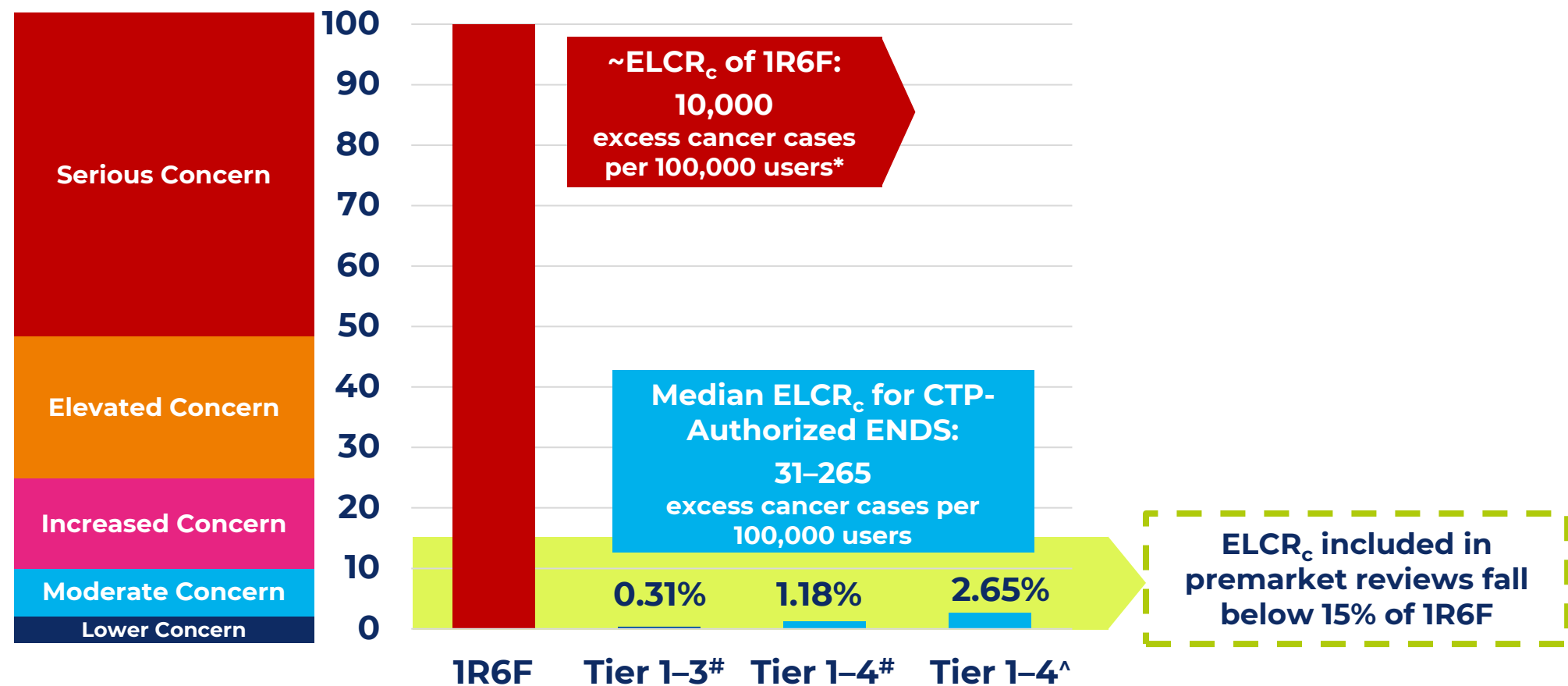
FDA Incorporates Two Tier-Based Approaches for ENDS ELCR_c Calculations



*As of February 2024

#Calculated from FDA (2025). PMTA Technical Project Lead Review, PM0000864.PD1, PM0000872.PD1, PM0000874.PD1, PM0000876.PD1

FDA's Risk Management Descriptors are Based on Percentage of 1R6F ELCR_c



*FDA (2024). Calculating Excess Lifetime Cancer Risk in ENDS Premarket Tobacco Product Applications

As of February 2024

^Calculated using 1R6F ELCR_c of 10,000 excess cancer cases per 100,000 users from FDA (2025). PMTA Technical Project Lead Review, PM0000864.PD1, PM0000872.PD1, PM0000874.PD1, PM0000876.PD1

FDA's Use of Cumulative Excess Lifetime Cancer Risk ($ELCR_c$) in ENDS Premarket Reviews



$ELCR_c$ calculations have been used to inform FDA Premarket Reviews of 16 ENDS products



Tiered constituent analysis (Tier 1–3 vs Tier 1–4) provides lower and upper estimates of cancer risk



$ELCR_c$ estimates for these products are $\leq 15\%$ of 1R6F indicating lower cancer risk relative to combusted cigarettes

Tobacco Harm Reduction is *A Better Way to A Better Tomorrow™*

Our science & technology is bringing potentially reduced risk alternatives to the almost 30 million adult smokers. Knowledge and choice drive change.

REYNOLDS 