

# Modern Statistical Learning Methods for Observational Biomedical Data

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## Lab 0: Identification of an average treatment effect

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### MODULE 6

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## Contents of this Lab

- 1 Computing an ATE using the G-computation and IPTW formulas by hand

## The G-computation and IPTW identification formulas

For the population described in the table below, calculate  $E(Y | A = a)$  and  $E[Y(a)]$  corresponding to treatment ( $a = 1$ ) and control ( $a = 0$ ) using:

- (i) the G-computation formula;
- (ii) the IPTW formula.

(Green and orange values provide counts of individuals with  $Y = 1$  and  $Y = 0$ , resp.)

	$W = 0$	$W = 1$	$W = 2$	
$A = 1$	20 + 12	49 + 11	89 + 7	
$A = 0$	94 + 34	30 + 30	6 + 18	