



EPA's Proposal for MOBILE6

*Inspection and Maintenance &  
Other In-Use Control Programs*



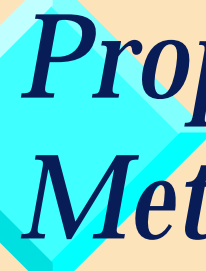
# *Current Options*

- ❖ Tailpipe HC, CO & NO<sub>x</sub> Inspection
- ❖ Anti-Tampering Inspection
- ❖ EPA Pressure/Purge Checks
- ❖ Annual or Biennial Inspection
- ❖ One or Two I/M Descriptions
- ❖ Waivers & Compliance Rates



# *Added Options & Features since MOBILE5a*

- ❖ Mechanic Training Credits
- ❖ Retest-based Hybrid Credits
- ❖ Remote Sensing Program Credits
- ❖ Adjustable Test & Repair Discount



# *Proposed Program Benefit Methodology*

- ❖ No changes in methodology
- ❖ No changes in exhaust identification rates
- ❖ No changes in tampering rates
- ❖ Investigate effect of repairs on start vs running emissions
- ❖ Review of evap test procedures



# *Impact on Benefits*

- ❖ Anti-tampering benefits will be similar
- ❖ Overall exhaust I/M benefits will depend on the number of high emitters
- ❖ Evap benefits will depend on the effectiveness of the test procedures



# I/M Credits

Start vs Running Emissions

*Presented by Janet C. Kremer*

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# I/M Credits

- Identification Rate: The I/M identification rate is the percent of emissions identified by a given test.
- Repair Effects: The difference between the emissions before repair and after based on a curve for each test and cutpoint combination.

# I/M Credits Currently

- Based on Emission Factor Program repairs
- The percent emission reduction rate is one rate for both start and running emissions.



# MOBILE6 I/M Credit Proposal

- Use MOBILE5 identification rate
- Update repair effects
- Look at the emissions reduction of start and running separately, to see the effect it would have on credits

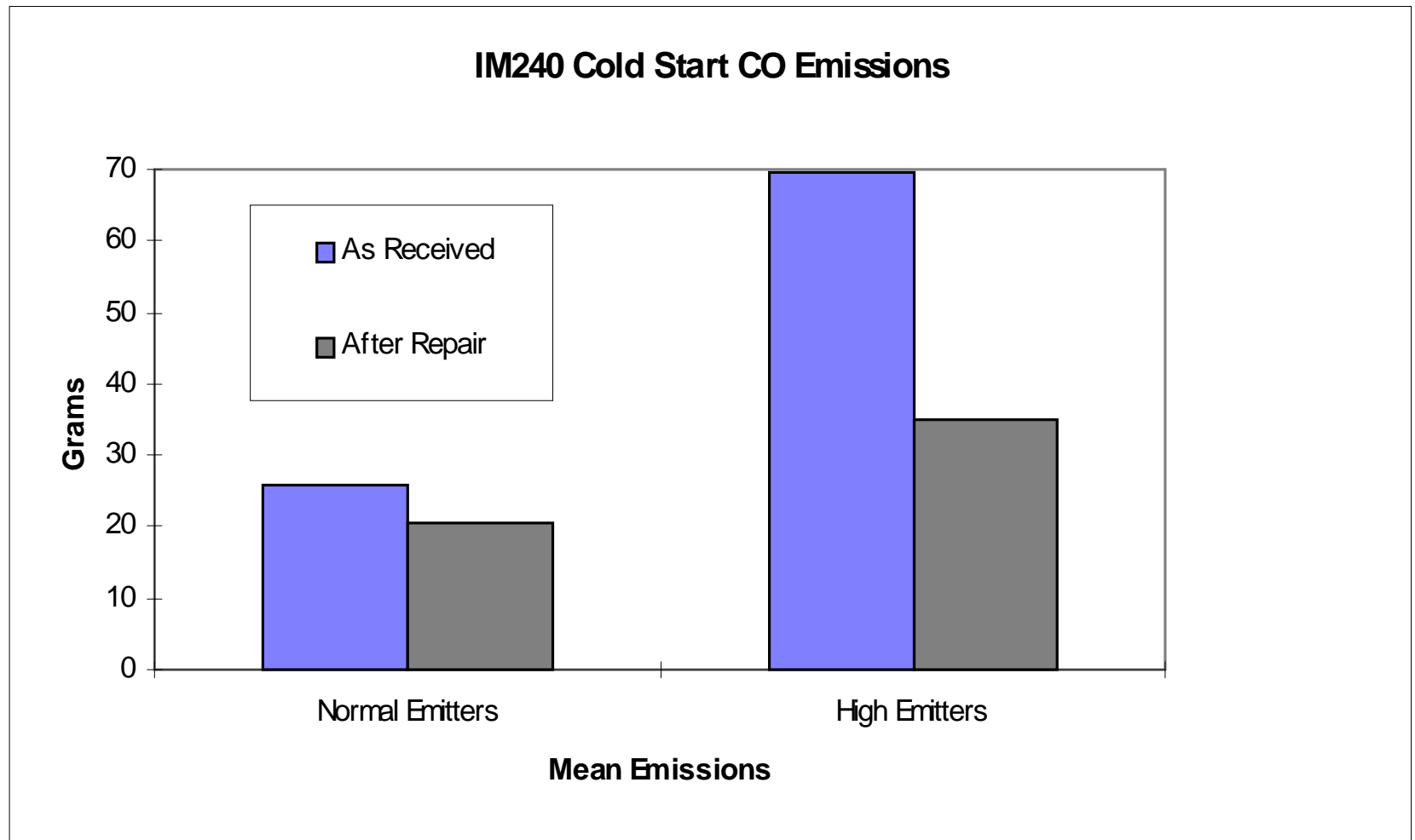
# I/M DATA

- To date there is very little "real world" studies on how effective repairs are.
- EPA has a large Emissions Factor (EF) database for vehicles tested both in house and by contractor.
- Vehicles for this analysis were chosen in the same fashion as an I/M lane would choose.
- Emission Factor program is the only data which contains effects on starts.

# Data Used For IM240 Example

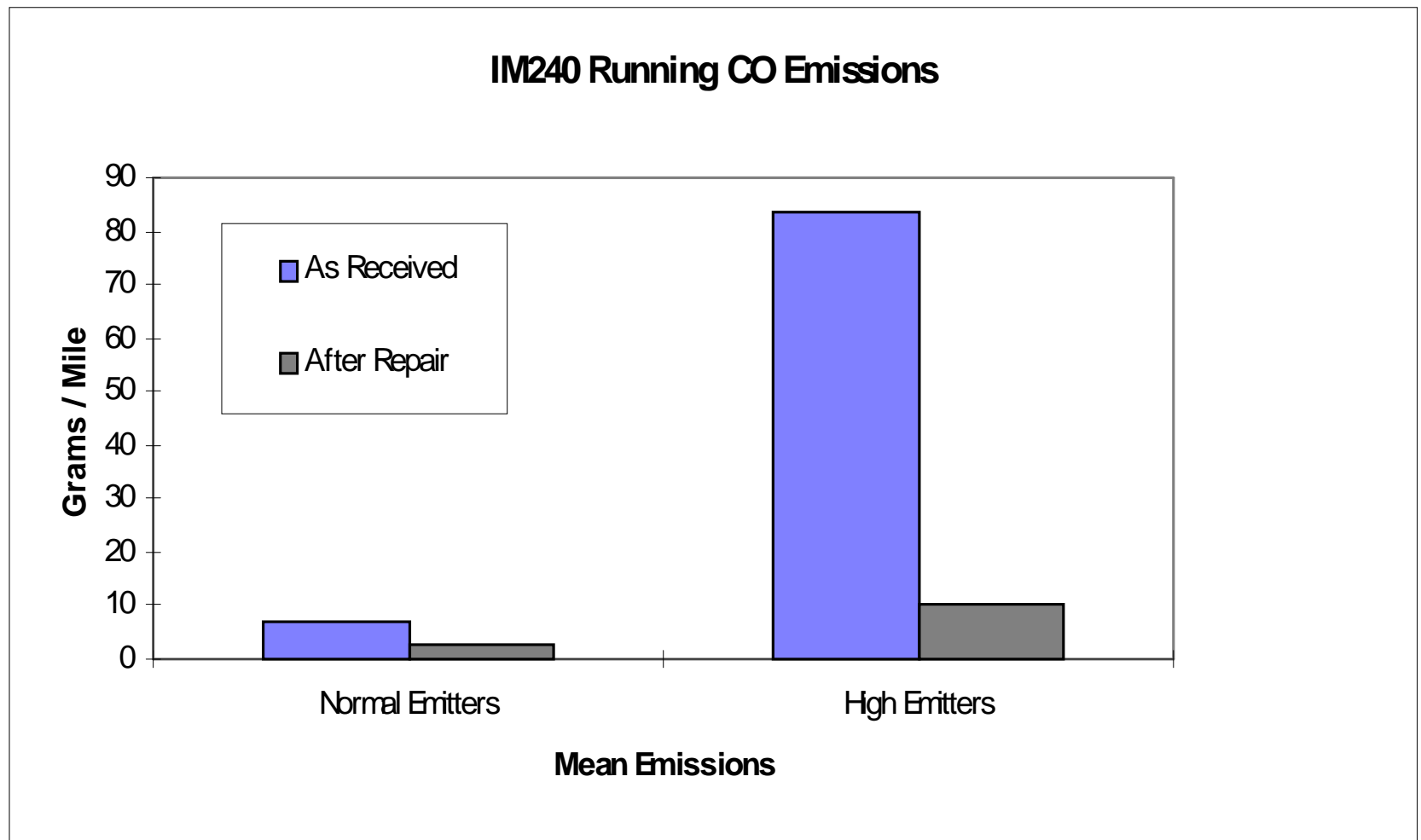
- Sample size: 22 LDV, 4 LDT1, 1 LDT2
- Model years: `81 -`95
- Tier 0

# Draft IM240 Cold Start CO Emissions



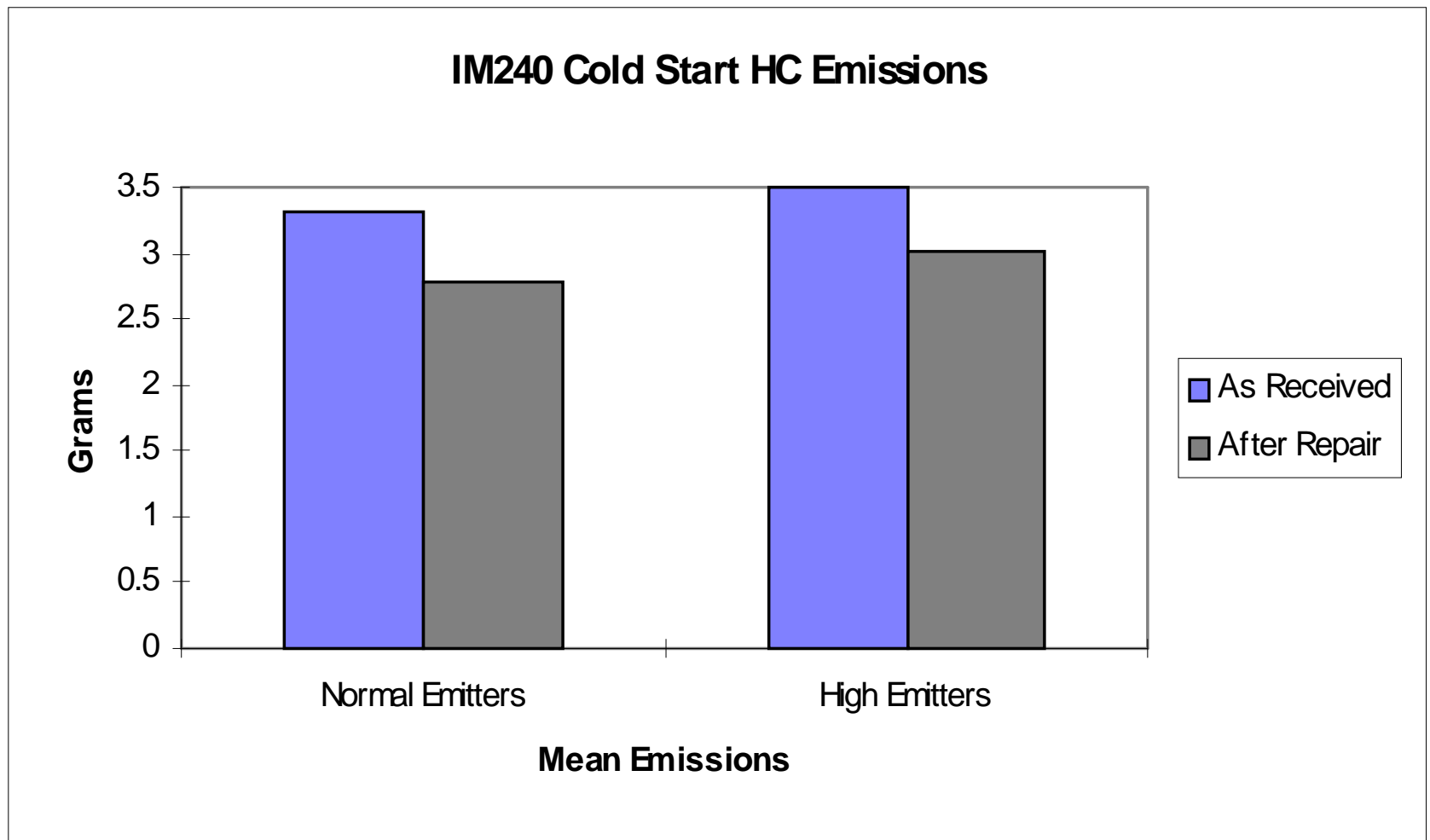
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# Draft IM240 Running CO Emissions



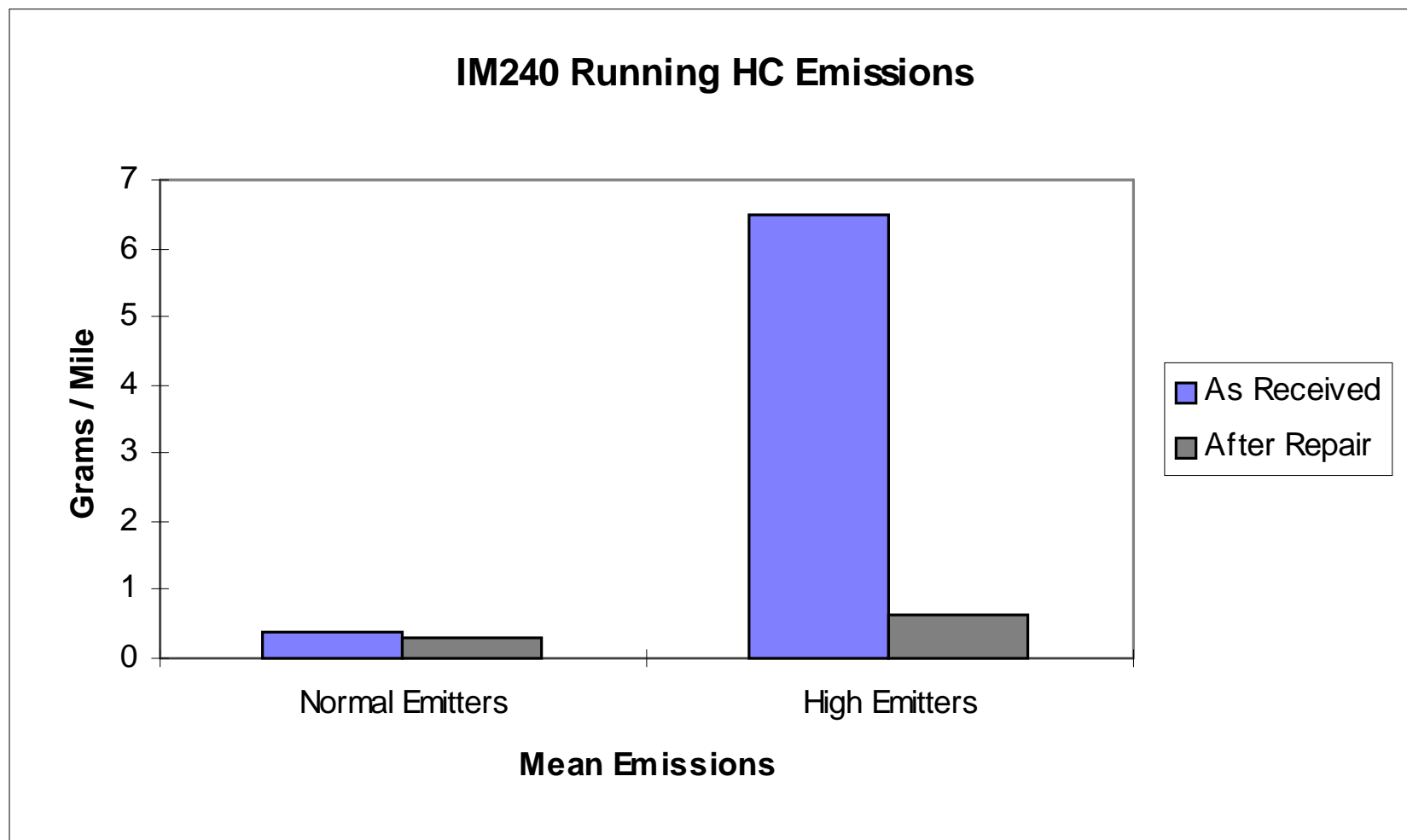
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# Draft IM240 Cold Start HC Emissions



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# Draft IM240 Running HC Emissions



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# Summary of IM240 Data

	Normal Emitters	High Emitters
As Received Cold Start CO Emissions(grams)	25.9	69.6
After Repair Cold Start CO Emissions(grams)	20.5	34.9
As Received Running CO Emissions(grams/mile)	6.77	83.6
After Repair Running CO Emissions(grams/mile)	2.77	10.09
Sample Size	9	18
As Received Cold Start HC Emissions(grams)	3.32	3.5
After Repair Cold Start HC Emissions(grams)	2.79	3.01
As Received Running HC Emissions(grams/mile)	0.39	6.6
After Repair Running HC Emissions(grams/mile)	0.29	0.64
Sample Size	8	19

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# Issues

- Percent change to starts for all soak times?
- What can or should be done with older model years?
- What can or should be done with future model years?

# Continuing Analysis

- EPA will continue analysis
- Will look at other test types
- Will look at other cutpoint combinations
- Will look at statistical significance