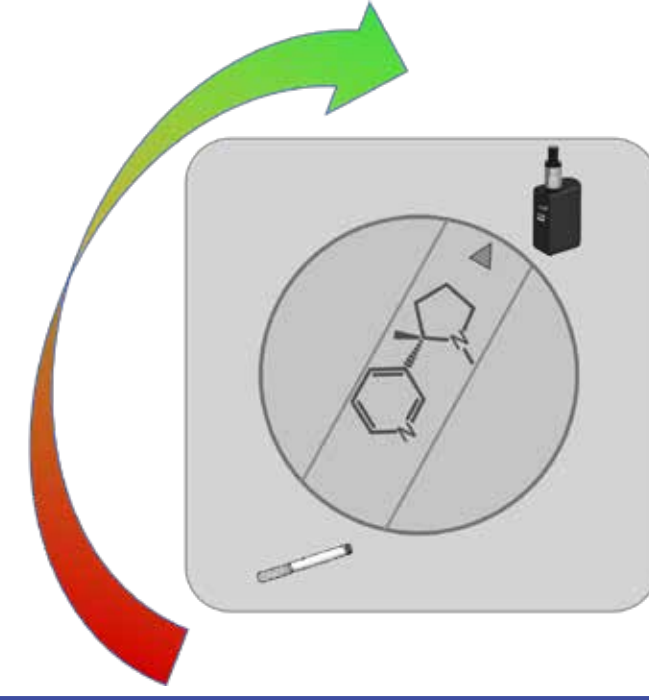
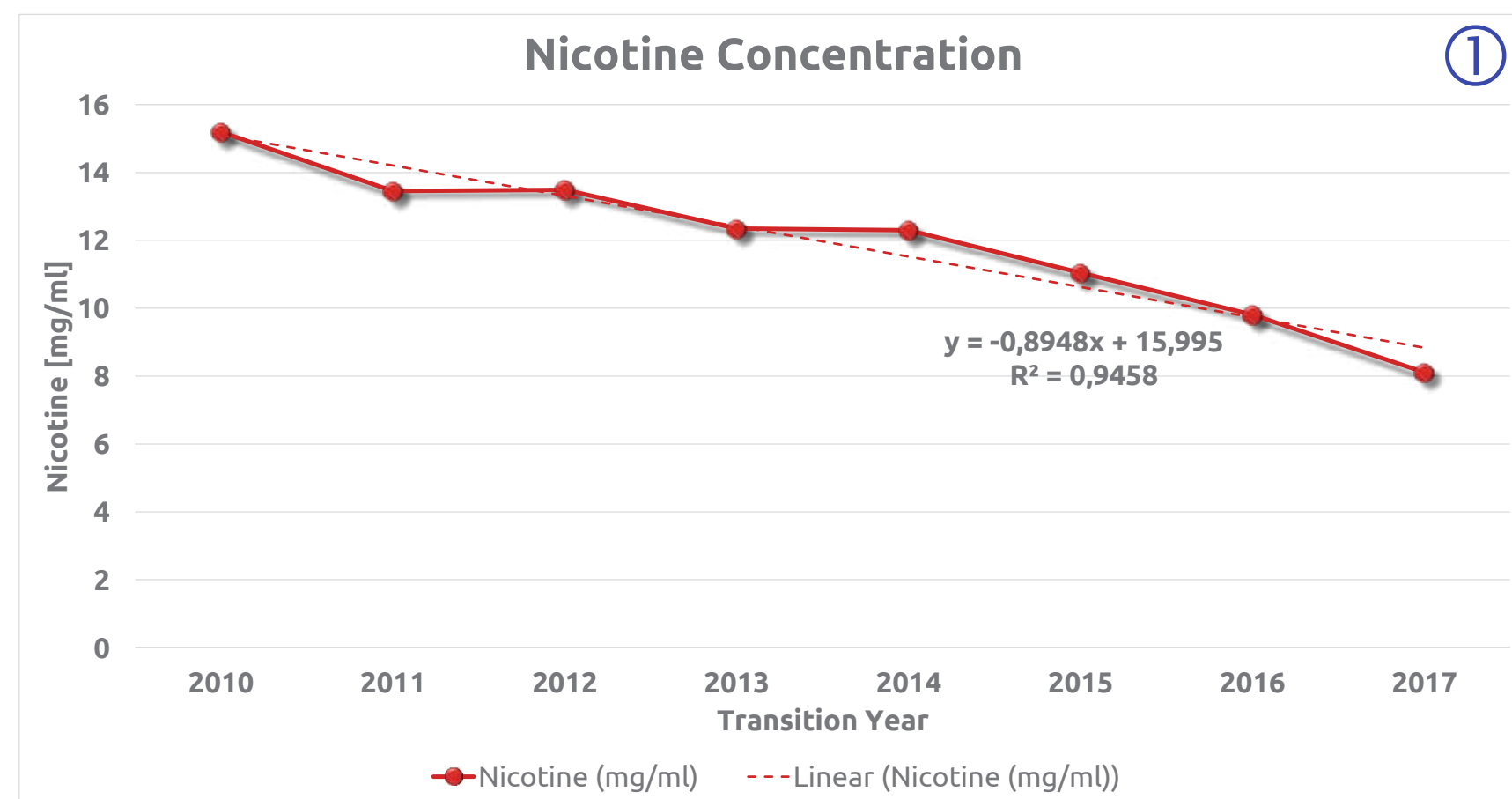


# Retrospective Survey on Switching Patterns of Experienced Vapers

In 2017 the German Vapers Organization (IG-ED) conducted a survey with over 2.000 participants. Like all Internet surveys it has a selection bias, but here it aids in evaluating empirical data from the most successful vapers.

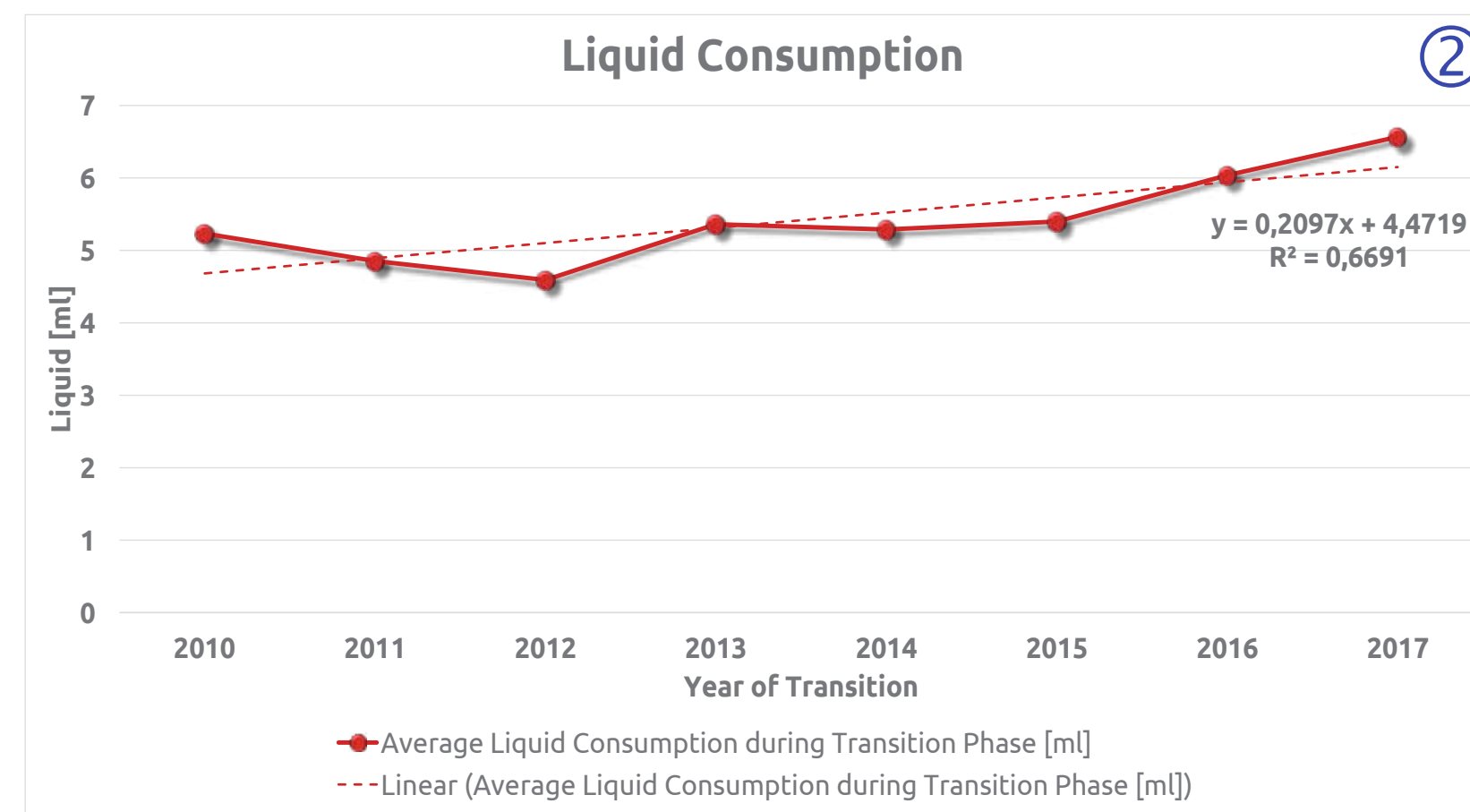


The main focus of the survey was the transition phase from smoking to vaping. Initial purpose was to provide current smokers with useful information on how the most successful vapers made the switch.



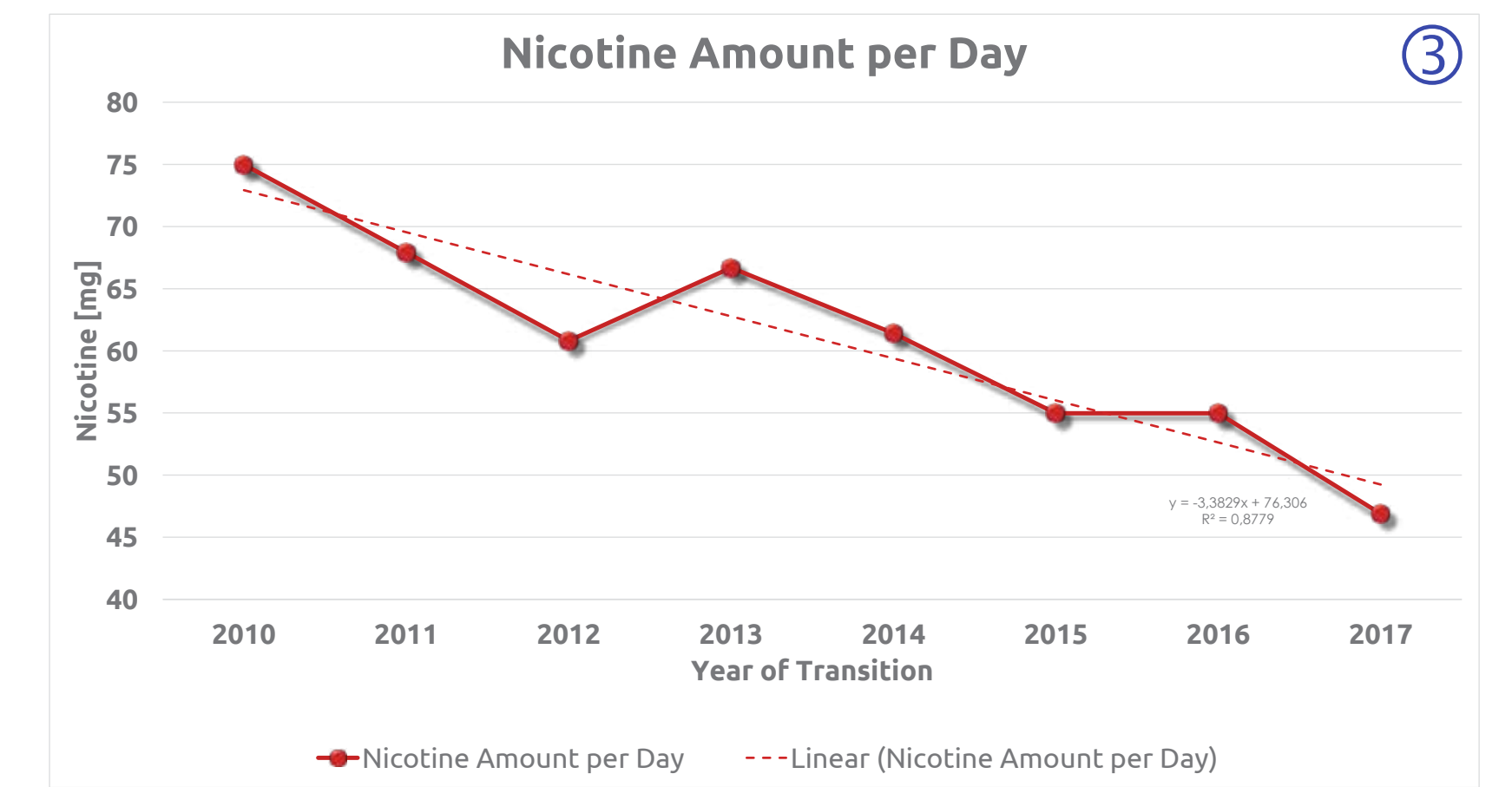
The average nicotine concentration during a successful switch has continuously dropped. Today it is about half of what it was at the beginning. Possible explanations:

- improved devices
- an increasing number of people switching to vaping direct lung (DL) instead of mouth to lung (MTL)



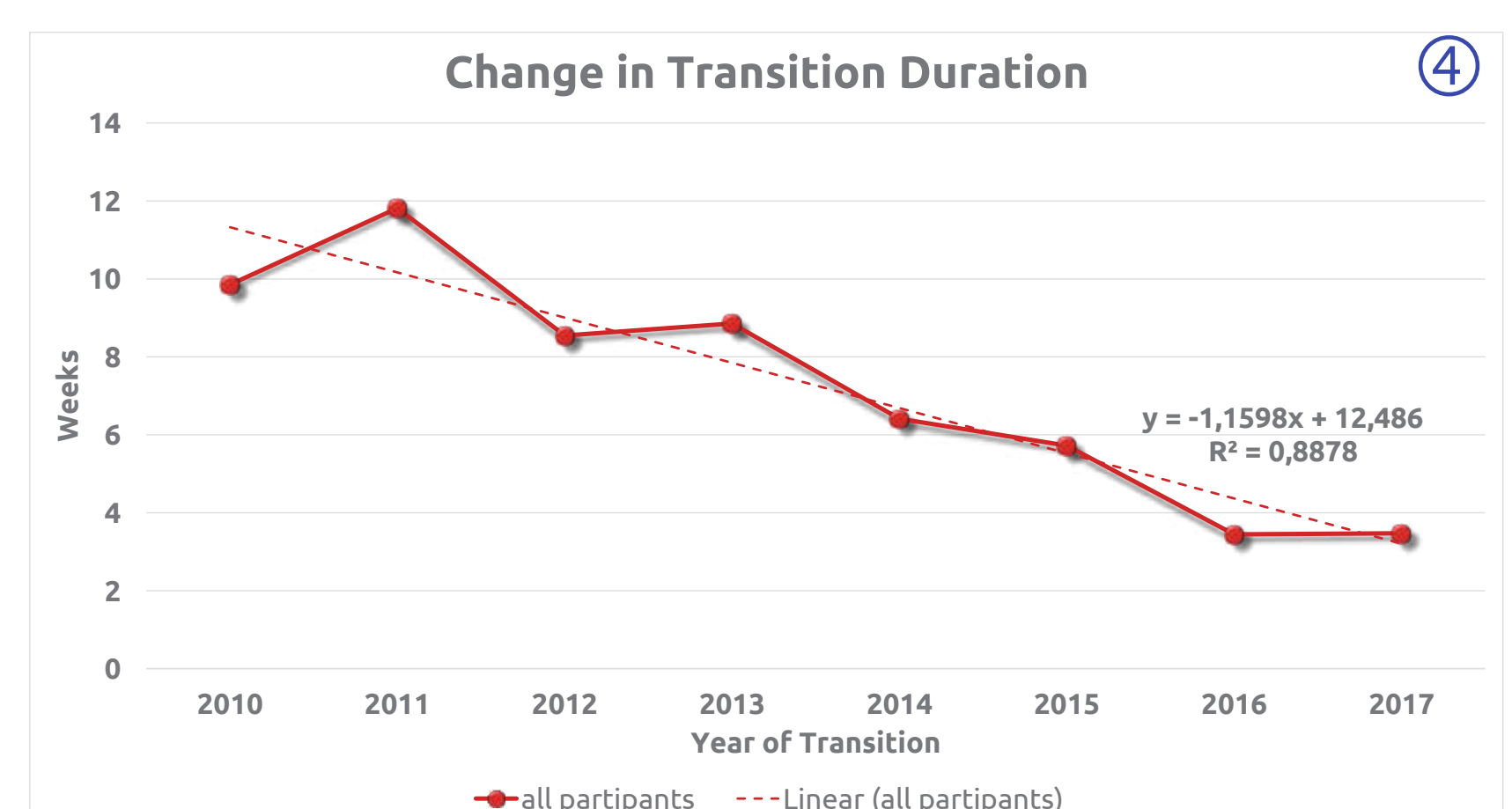
The liquid consumption during the transition phase has grown steadily since 2014. Possible explanations:

- An increasing percentage of DL switchers.



The average total amount of nicotine during the transition phase has fallen over the years from 75 mg per day to 47 mg per day. Possible explanations:

- improved devices
- change in vaping technique (DL vs. MTL)



Plainly declining trend. Average duration of the transition phase has fallen from 10 weeks to less than 4 weeks. Possible explanations:

- better vaping devices
- percentage of people fully intending to switch has grown

## Interactive Online Nicotine Calculator based on Survey Data.

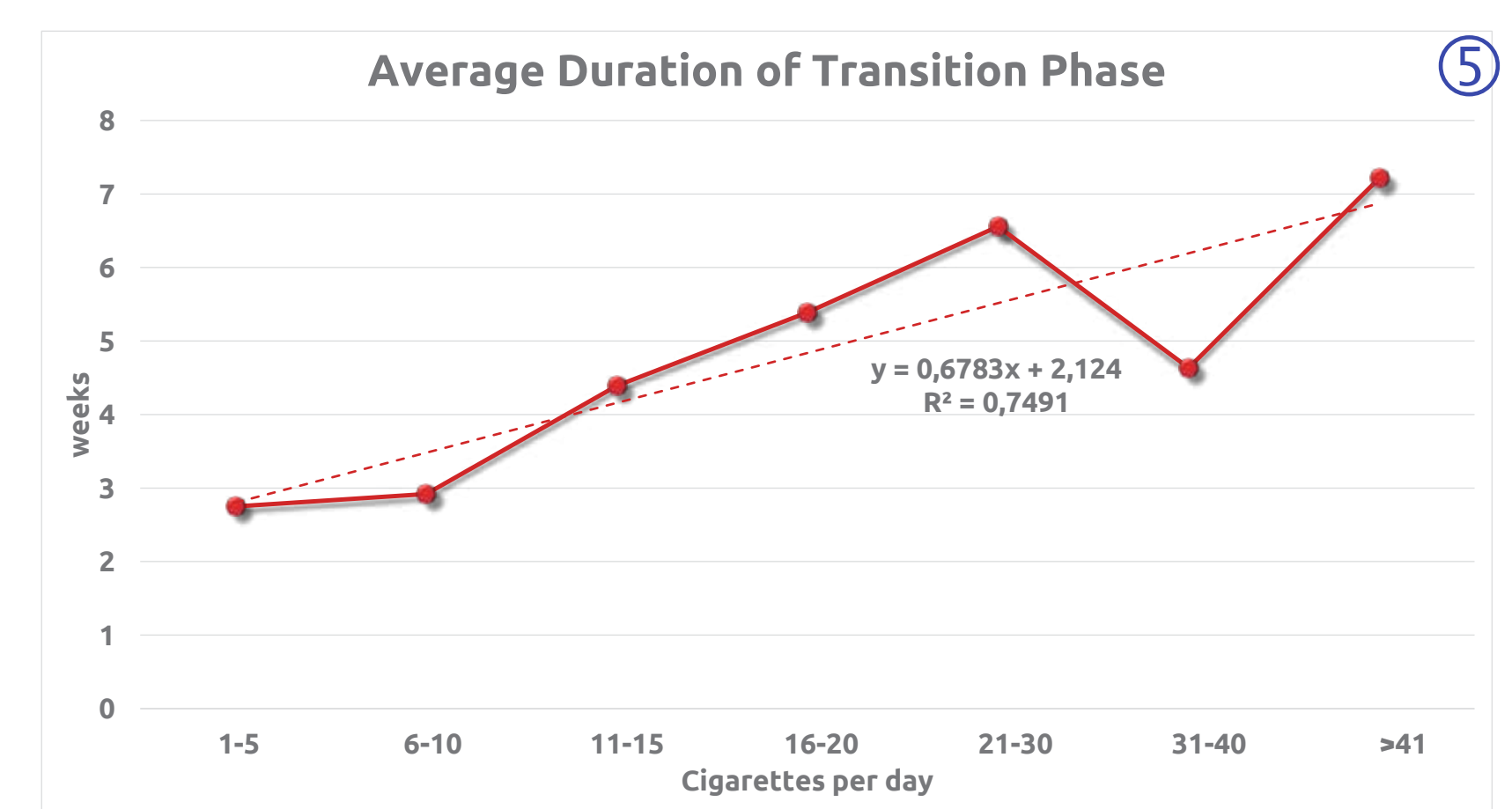


<https://ig-ed.org/nicotine-calculator>

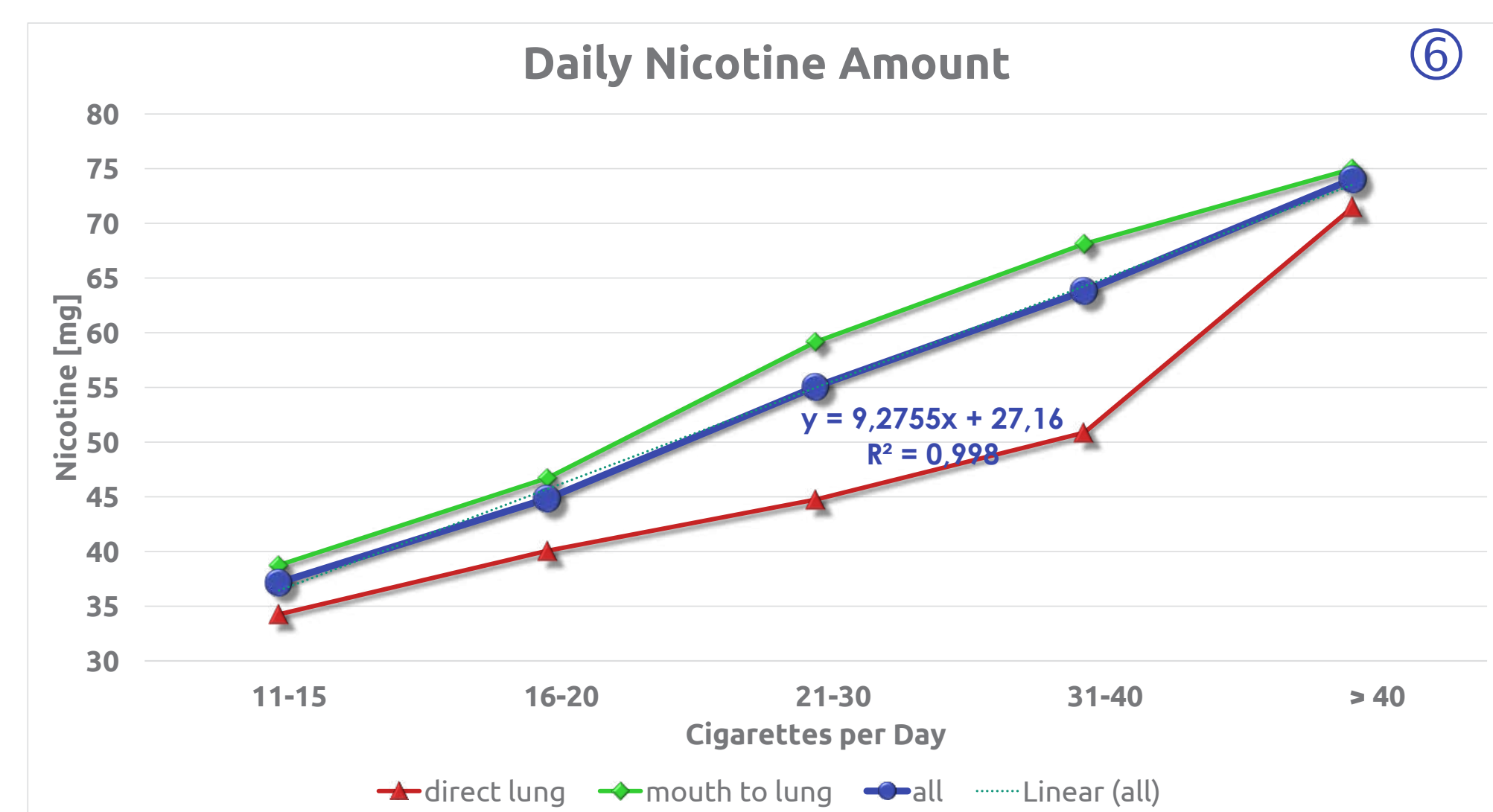
Cigarettes per day	20
Direct Lung	6 mg/ml
Mouth to Lung	11 mg/ml

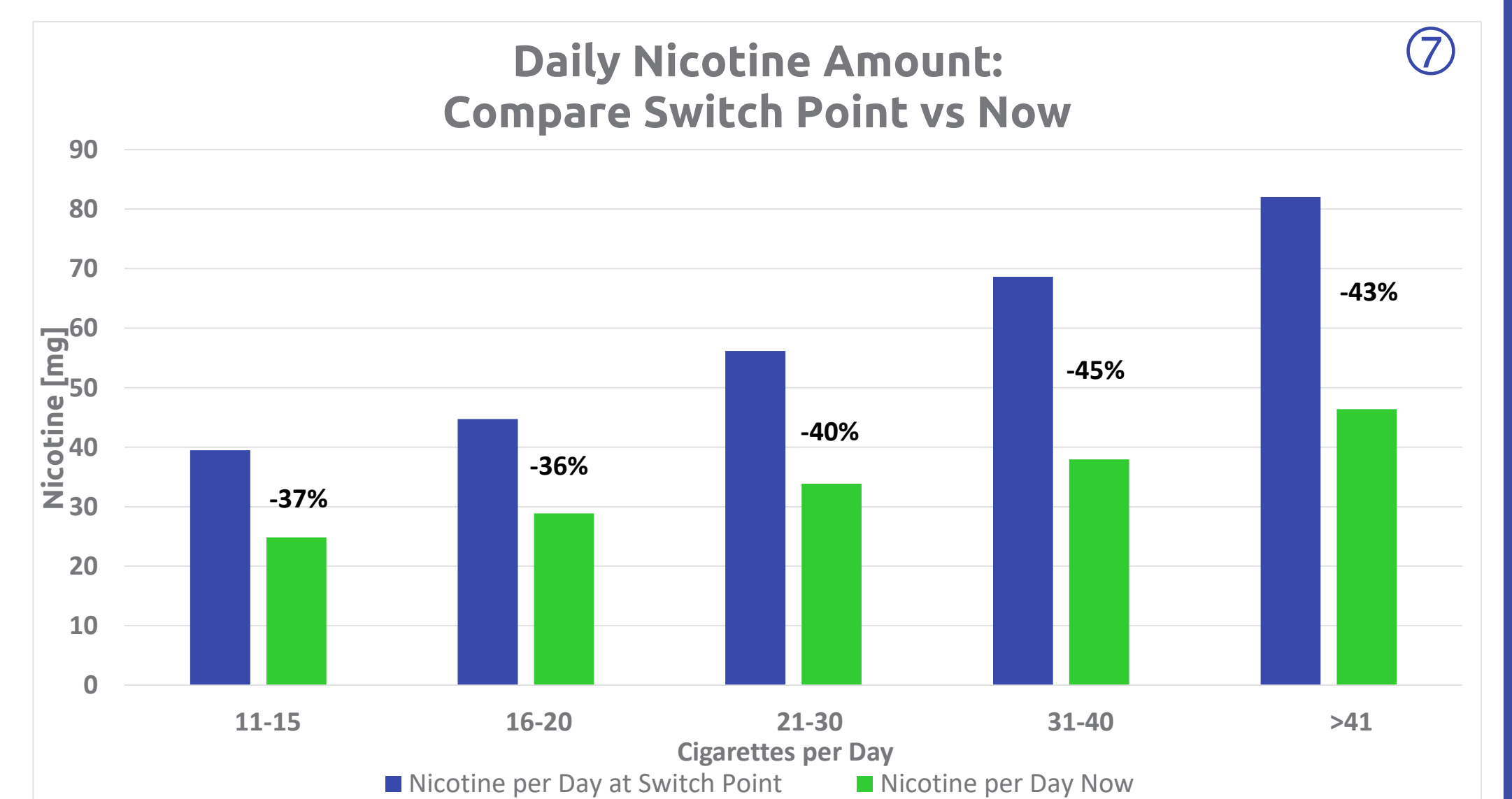
Details, Variations	
ml	Nicotine per day: 49 mg
20 Cigarettes per day Mouth to Lung 49 mg Nicotine per day	
<input type="button" value="RESET TO TYPICAL VALUES"/>	
Strength:	11 mg/ml
Consumption:	4,6 ml



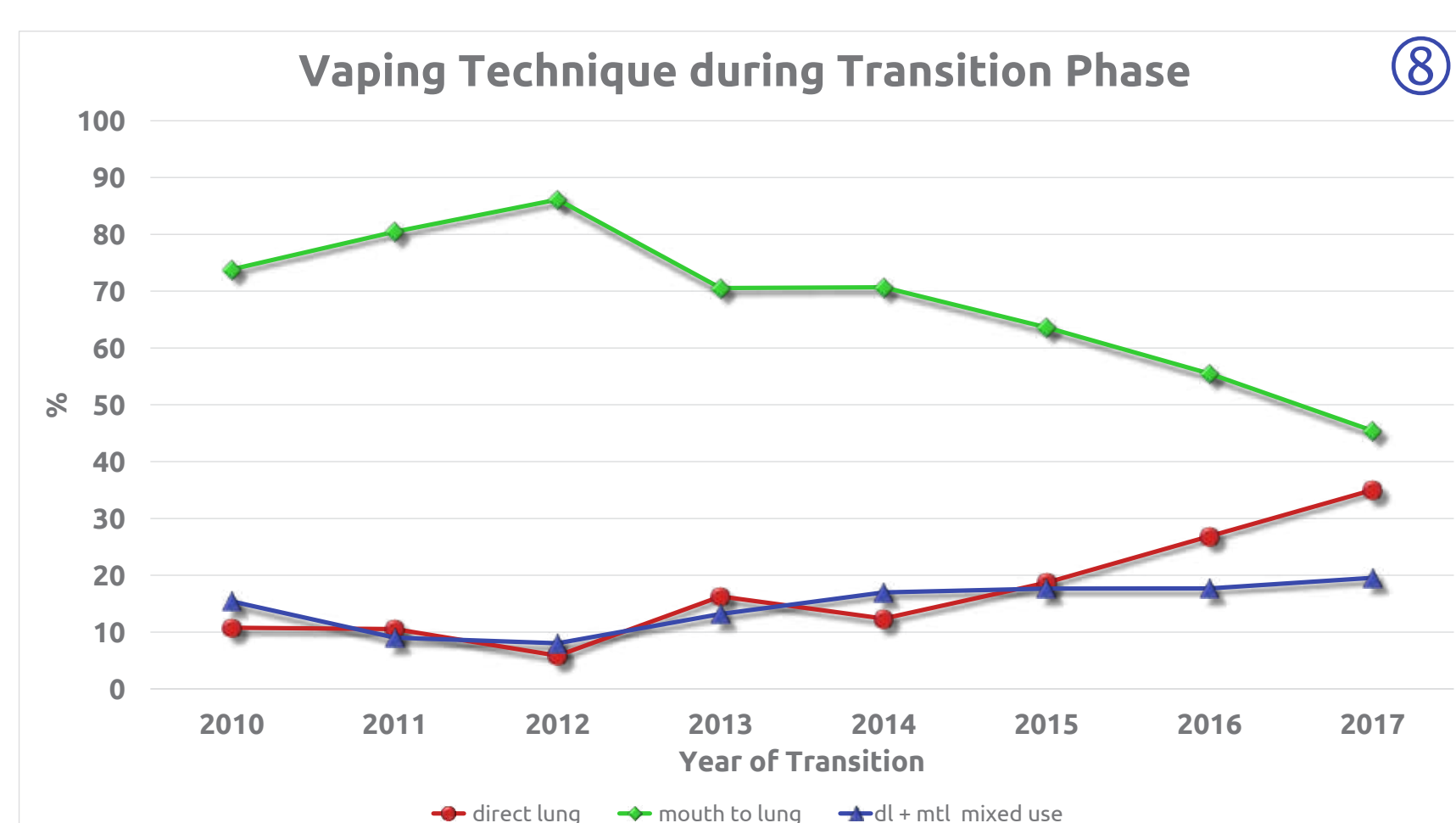
Correlation between the duration of the transition phase and the number of previously smoked cigarettes. The more cigarettes were smoked, the longer the transition phase. Most participants had smoked 11 to 40 cigarettes per day.



The total amount of nicotine per day correlates almost linearly with the number of previously smoked cigarettes. The more cigarettes someone used to smoke, the more total nicotine per day is necessary for switching. But heavy smokers apparently get less nicotine from a single cigarette than people who smoke less. Thus the slope is less steep than expected. The total amount also depends on the vaping technique. We assume that vaping technique (DL/MTL) has a strong influence on the nicotine kinetics. More studies are necessary. The survey data were used to establish an algorithm for a Nicotine Calculator, which provides reliable recommendations for successful switching (from smoking to vaping).

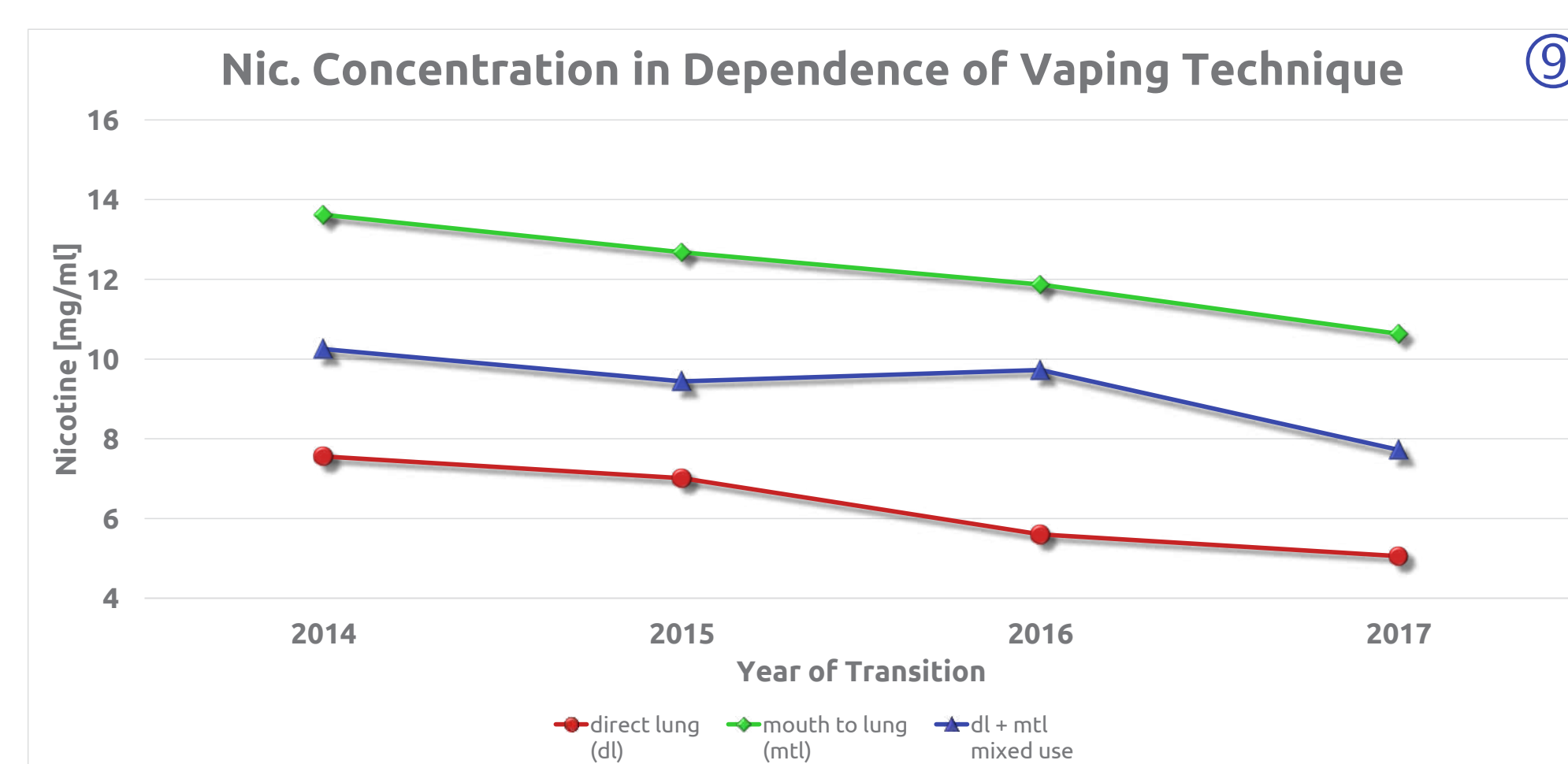


Daily amount of nicotine at switch time compared to the amount at the time of the survey. On average vapers reduced their daily amount of nicotine after switching by 40% (36% to 45%). The data indicate that the participants reduced not just the nicotine concentration over time, but also their total daily amount of nicotine. This contradicts the common claim that switching to vaping just replaces one addiction by another. It also casts doubt on any addiction maintaining property of nicotine.



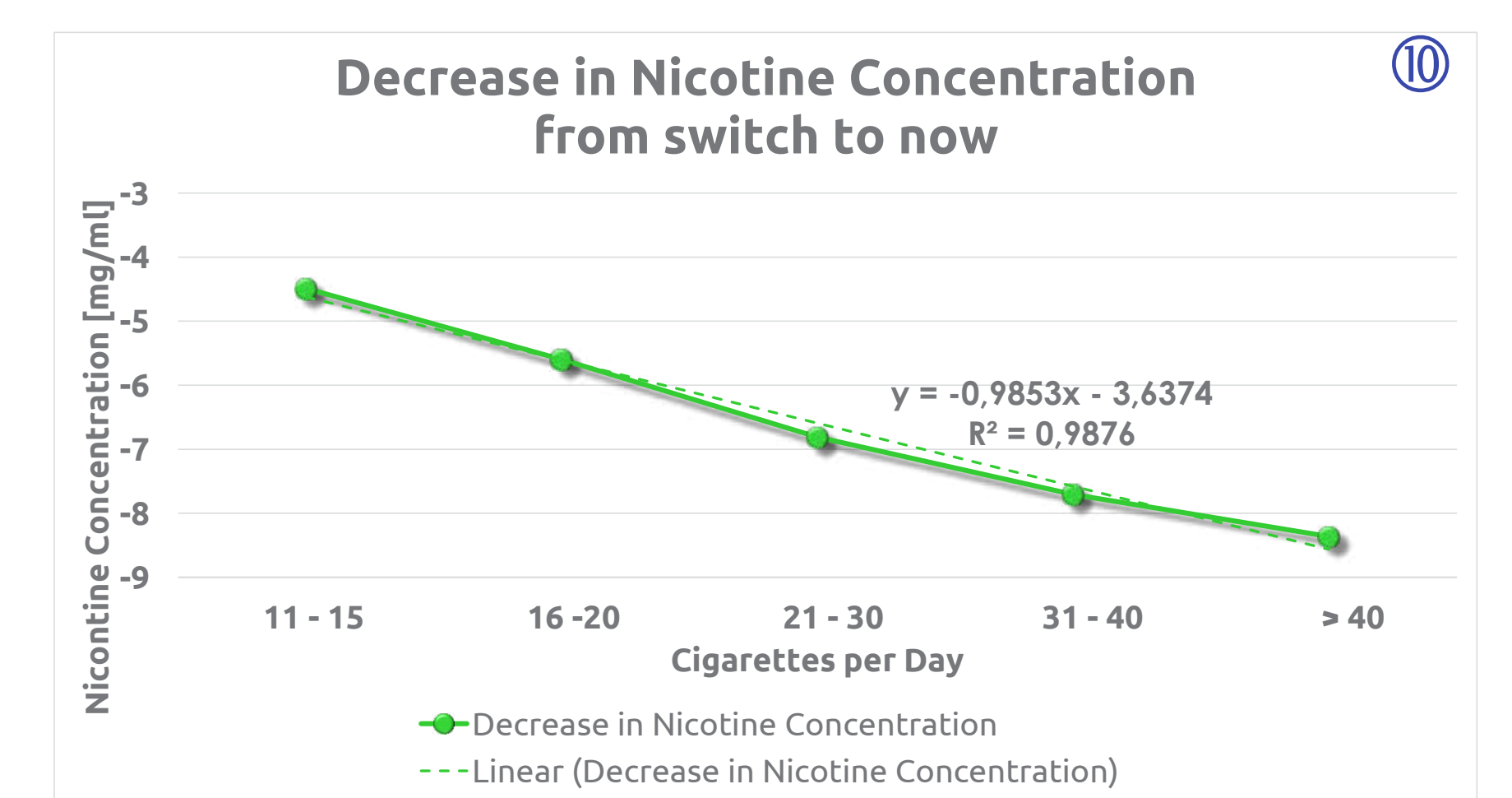
Vaping techniques during the transition phase between 2010 and 2017. Since 2014 we see a significant shift from MTL to DL. Possible explanations:

- Development of DL devices for the mass market from 2014
- Increasing share of DL devices in shops
- "Promotion" of cloud chasing by mass media articles



Average nicotine concentration by vaping technique during the transition years from 2014 to 2017. The nicotine concentration in the transition phase has dropped from 2014 to 2017 (DL: 33%; MTL: 22%; mixed: 25%). Possible explanations:

- improved devices (e.g. more power)

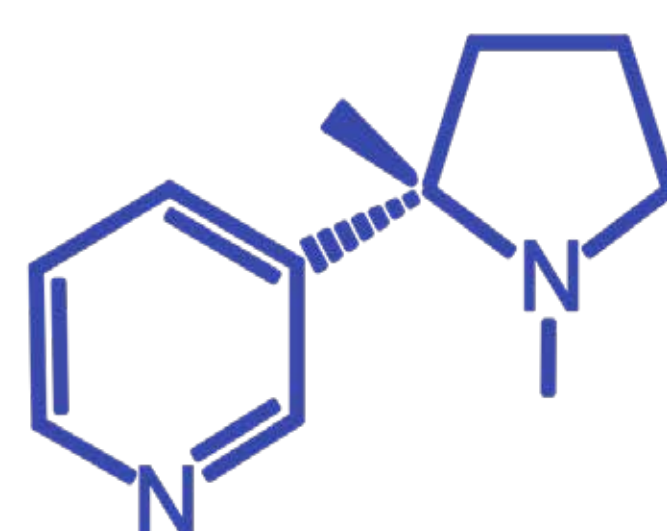


The more cigarettes were smoked previously, the more vapers reduced their nicotine concentration over time. Possible explanations:

- heavy smokers more often start as MTL and later switch to DL
- early vapers were mostly heavy smokers and started with inferior devices

## Conclusion

Results from over 2.000 participants show that the total amount of nicotine per day is strongly correlated with the number of cigarettes smoked and the vaping technique. Based on this data, we developed an online nicotine calculator to better understand the switch from smoking to vaping.



The daily nicotine intake is not directly scalable by the number of cigarettes smoked. Heavy smokers get less nicotine from each cigarette than regular smokers. We also found that vapers tend to significantly reduce their initial daily nicotine intake after switching.



PDF poster & details:  
<https://ig-ed.org/gfn18-poster>

mail: [vorstand@ig-ed.org](mailto:vorstand@ig-ed.org)



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