

Informal document **GRSP-49-36**
(49th GRSP, 16 - 20 May 2011,
agenda item 15)

49th GRSP Session

Status report of Informal Group on FI

Pierre CASTAING

Chairman

Mandate of the informal group on Frontal Impact

- **Report of the Working Party on Passive Safety on its forty-sixth session (Geneva, 8 - 11 December 2009)**
 - 26. The Chairman of the informal group on frontal collision introduced the status report of this group (GRSP-46-26). He concluded that more time and discussion were needed to reach an agreement on the main issues indicated in the terms of reference of the group (GRSP-43-12). GRSP agreed to inform WP.29 at its March 2010 session in order to rearrange the plans of the group.
- **Report of the Working Party on Passive Safety on its forty-seventh session (Geneva, 17 - 21 May 2010)**
 - 37. The Chair of the informal group on frontal collision introduced the latest status report of the informal group (GRSP-47-14). He explained that the group had difficulties at this stage to deliver a draft new Regulation No. 94 yet, and suggested that the deadline of his group should be extended to May 2011 to clarify the planning of the group. GRSP endorsed the suggestion of the Chair of the informal group and agreed to inform WP.29 at its June 2010 session.
- **Reports of the World Forum for Harmonization of Vehicle Regulations on its one-hundred-and-fifty-first session (Geneva, 22-25 June 2010)**
 - 34. Regarding Regulation No. 94 (Frontal collision), she asked for the extension of the mandate of the informal group until May 2011. The World Forum endorsed the request.

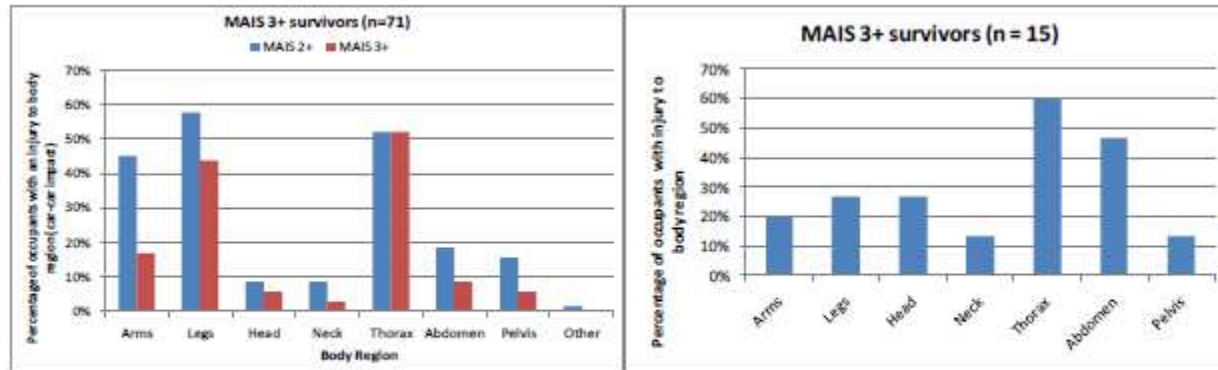


Figure C - 7. AIS2+ injury distribution for MAIS3+ survivors in Great Britain (left) and Germany (right)

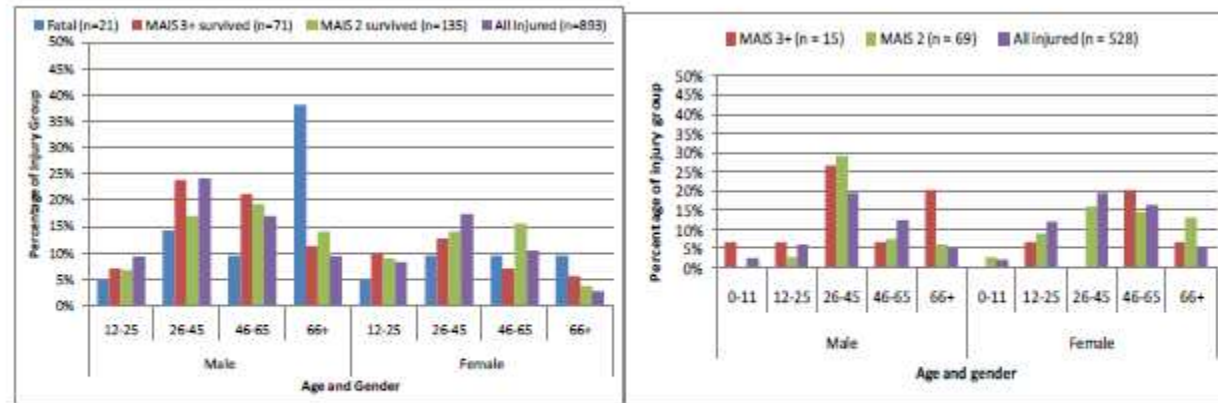


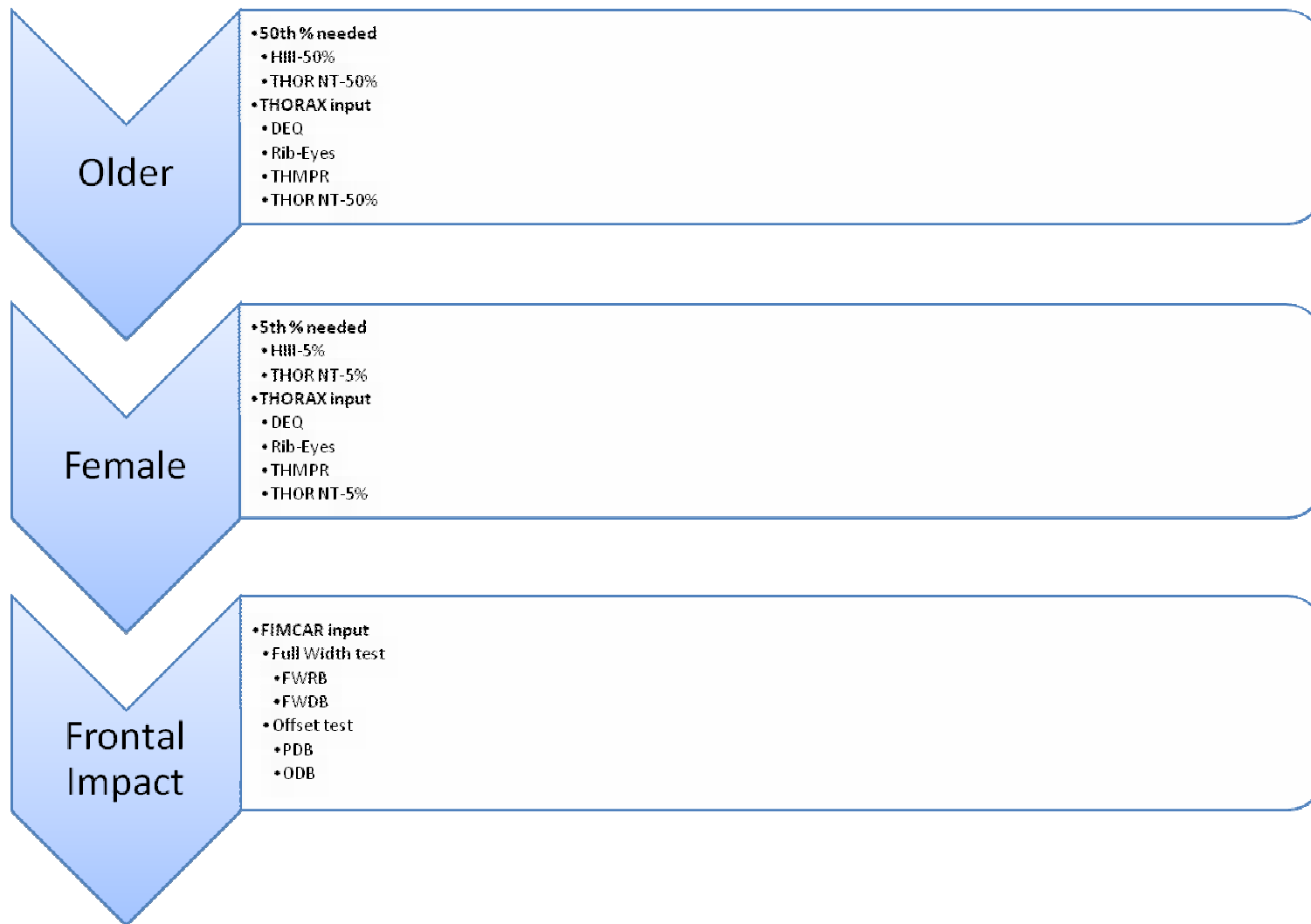
Figure C - 8. Distribution of age and gender for car-car/LGV impacts in Great Britain (left) and Germany (right)

1.2. „TCA“ Generic Benefit Assessment

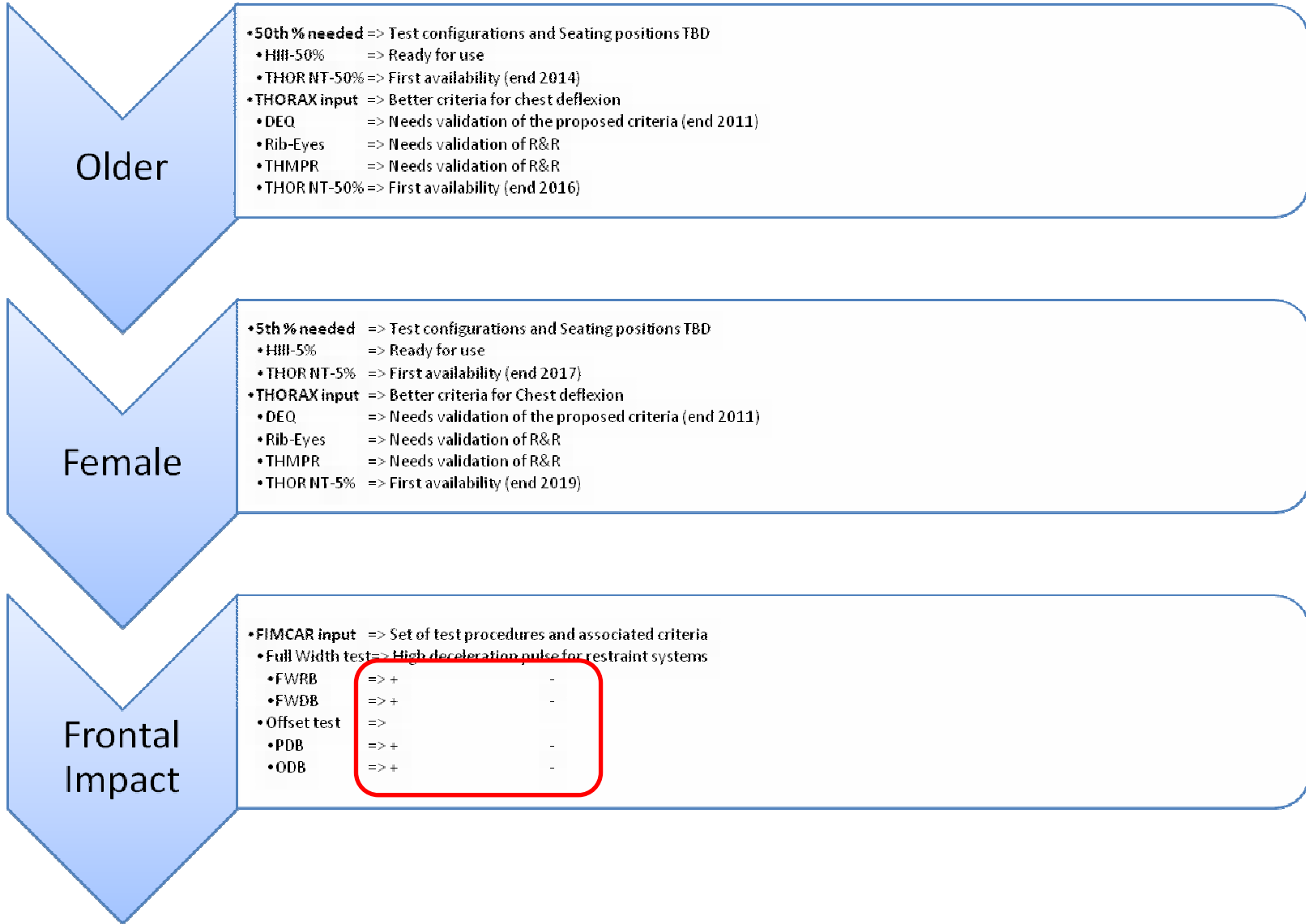
	Fatalities	Severely Injured	Slightly Injured	Uninjured
Now	100,0%	100,0%	100,0%	100,0%
a	98,2%	100,1%	100,0%	100,4%
b	95,0%	100,0%	100,7%	100,8%
c	96,1%	99,6%	100,7%	102,2%
d	93,7%	100,0%	101,3%	99,8%
e	91,8%	99,4%	102,5%	100,7%
b+d	90,6%	99,9%	102,0%	100,3%
e+d	88,6%	99,3%	103,2%	101,1%
f	68,0%	100,0%	107,8%	95,8%

- | | |
|---------------------------------------------------------------------|-------------------------------------------------------------------|
| a. <u>Do nothing</u> | d. <u>adjust restraint system to female</u> |
| b. <u>add „crashworthiness“ to small cars</u> | e. <u>adjust restraint system to female and elderly occupants</u> |
| c. <u>Increase „crashworthiness“ of all cars to high NCAP level</u> | f. <u>Better „crash energy distribution“</u> |

Possible scenario for amendment of ECE R94



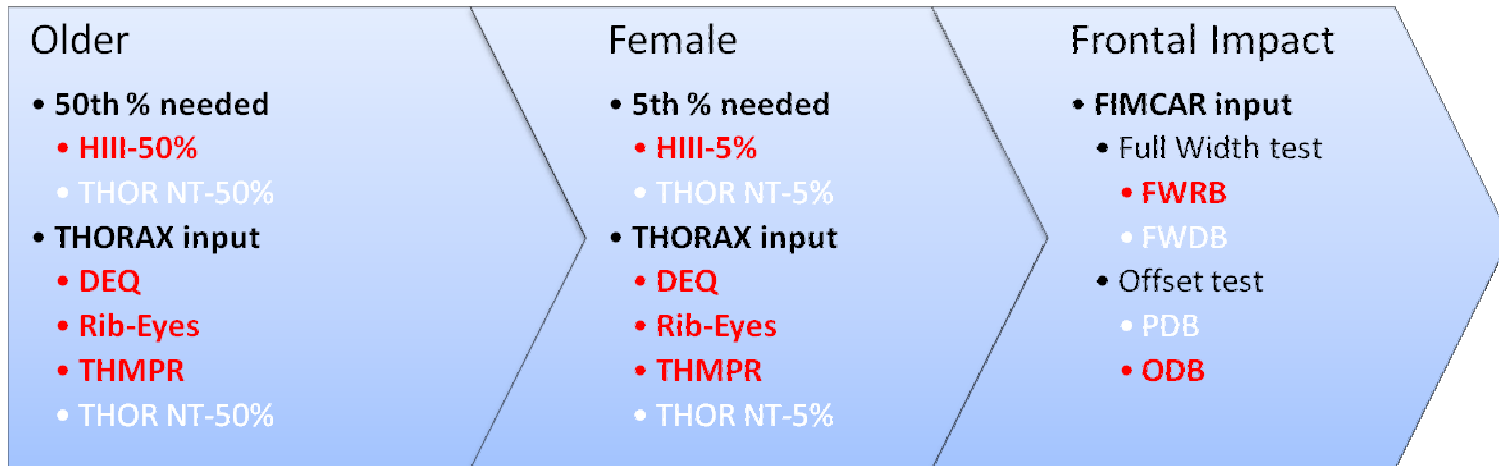
Possible scenario for amendment of ECE R94



	Pros	Cons
FWRB	+ direct measurement of force + harmonized	- engine dump not attenuated
FWDB	+ more representative of real world + engine dump attenuated	- instability of deformable element - not harmonized
PDB	+ Test severity harmonization + possibility to assess structural interaction	- need FW test to avoid possible side effect - not harmonized
ODB	+ harmonized	- instability of deformable element - too low stiffness for modern vehicles - severity increases with car mass - self-protection level depends on size and mass - no possibility to assess structural interaction

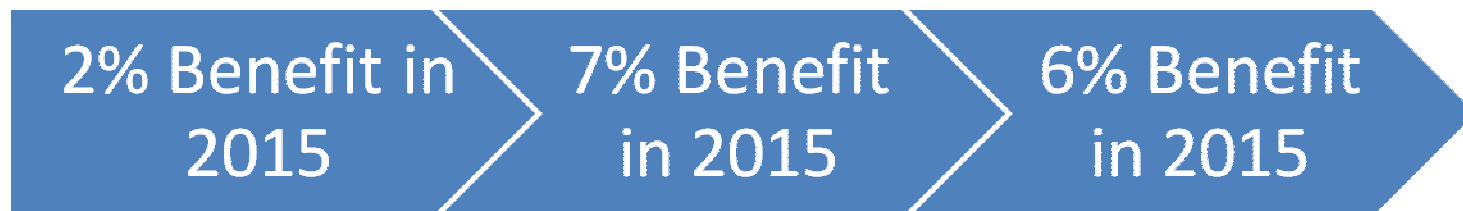
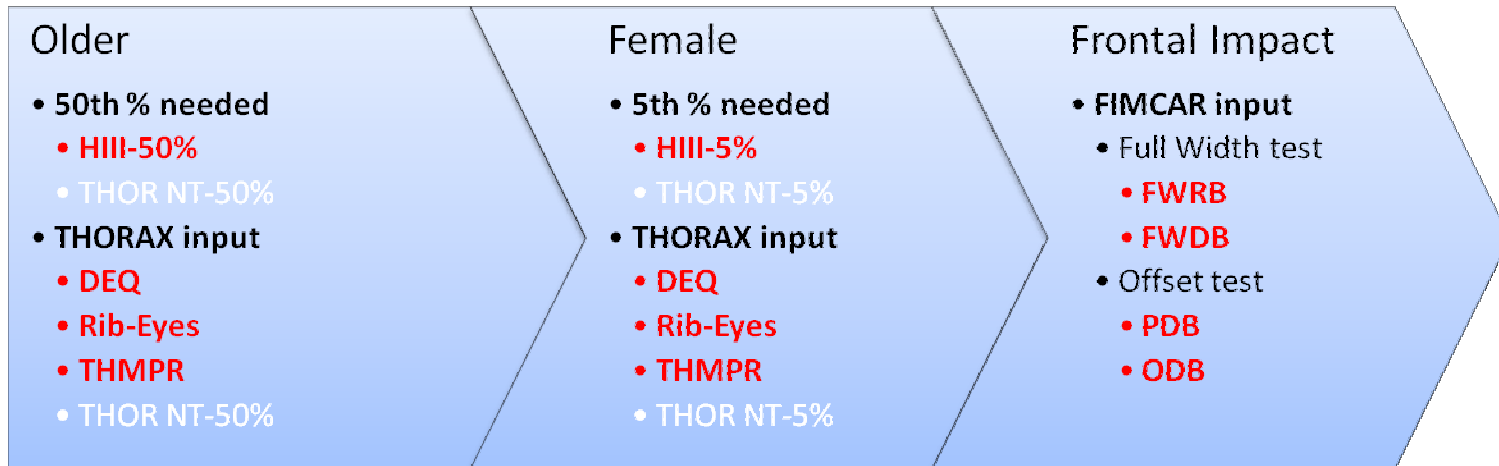
FIMCAR input

Possible scenario for amendment of ECE R94



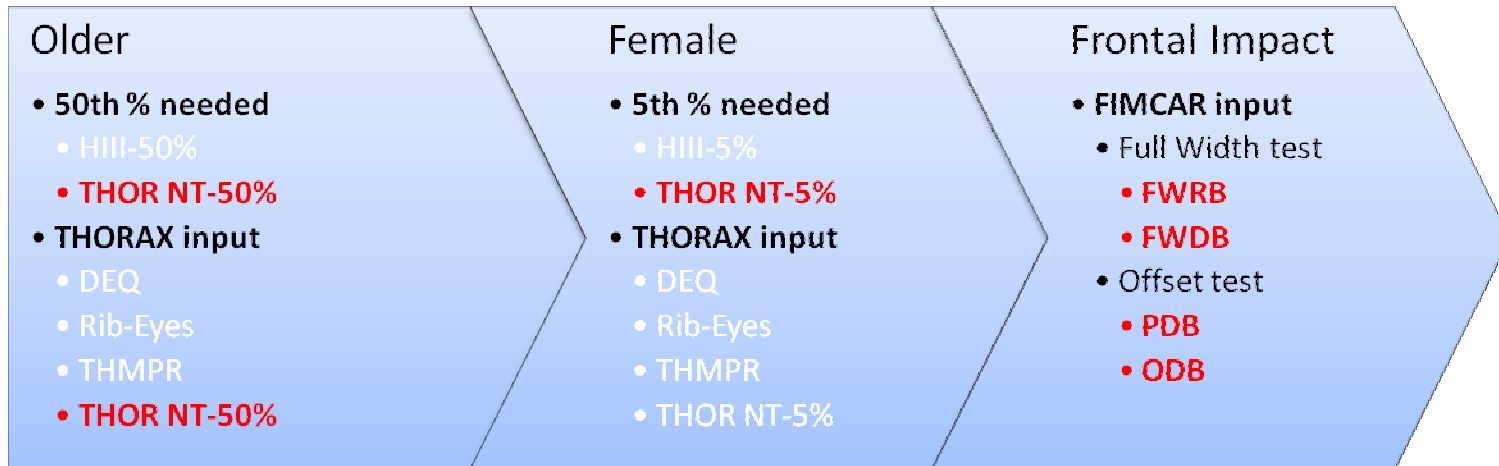
Scenario 1

Possible scenario for amendment of ECE R94



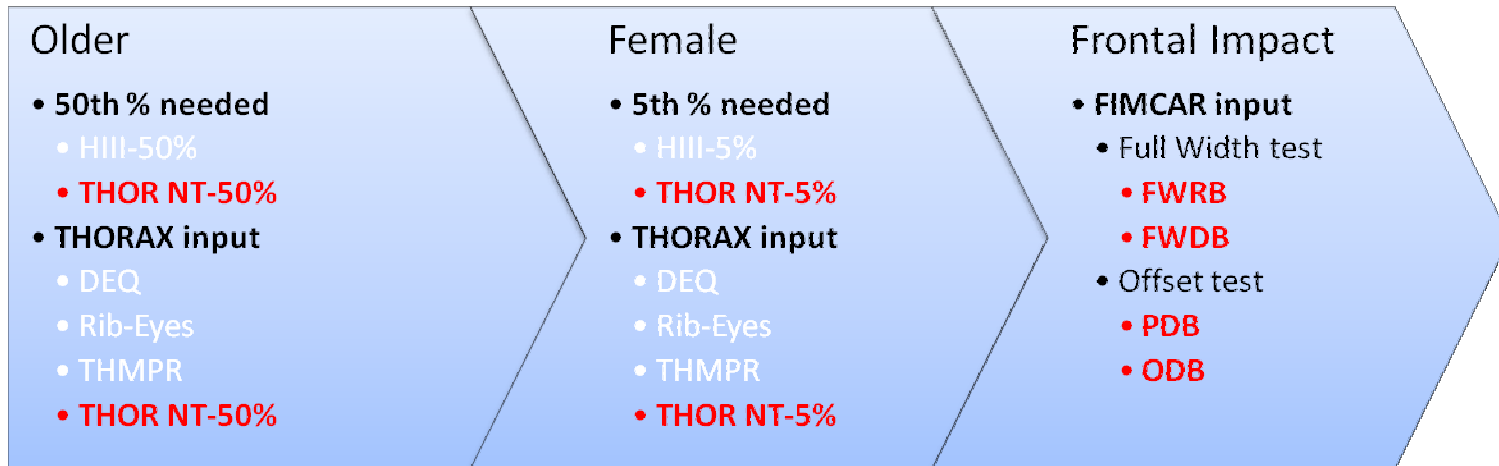
Scenario 2

Possible scenario for amendment of ECE R94



Scenario 3

Possible scenario for amendment of ECE R94



Scenario 4