

## COMMITTEE ON CARCINOGENICITY OF CHEMICALS IN FOOD, CONSUMER PRODUCTS AND THE ENVIRONMENT

### Frailty and Cancer

1. During the Committee's Horizon Scanning discussion in November 2015, cancer genetics and the influence of industrial exposures was raised as a medium priority topic. It was agreed that a recent article on this would be sent to the Secretariat for consideration by the Committee.

2. The article is a commentary on frailty and cancer, where frailty is the variation in risk due to factors that cannot be measured in individuals and includes inherited differences, environmental influences from conception and through life, and random somatic genetic or epigenetic events. The aspect of interest raised was whether the majority of lung cancers in those exposed both to smoking and to an additional lung carcinogen such as asbestos would have occurred a few years later without the asbestos as a result of smoking. This would have important implications for compensation under English law, and also for mechanisms of carcinogenesis.

3. The commentary paper, provided in [Annex 1](#), accompanies a review of variation in disease risk and the concept of frailty, two other commentaries and an author response. These are provided as a set in [Annex 2](#).

### Questions for the Committee

4. Members are asked to comment on the contents of the papers and address the following:

- i). Is this a topic that the Committee should consider further and if so, how would Members prefer it to be addressed?

**COC Secretariat**  
**July 2016**

CC/2016/10 – Annex 1

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**Frailty and Cancer**

Peto J (2015) Commentary: Frailty and cancer. *International Journal of Epidemiology* 44(4), 1423-1424.

This reference is attached. It is not being made publicly available for copyright reasons.

**COC Secretariat  
July 2016**

CC/2016/10 – Annex 2

**COMMITTEE ON CARCINOGENICITY OF CHEMICALS IN FOOD,  
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**Frailty and Cancer**

Aalen OO, Valberg M, Grotmol T & Tretli S (2015) Understanding variation in disease risk: the elusive concept of frailty. *International Journal of Epidemiology* 44(4), 1408-1421.

Mathews JD & Hopper JL (2015) Commentary: Age and frailty – not quite the same thing. *International Journal of Epidemiology* 44(4), 1421-1423.

Moolgavkar SH (2015) Commentary: Frailty and heterogeneity in epidemiological studies. *International Journal of Epidemiology* 44(4), 1425-1426.

Aalen OO, Valberg M, Grotmol T & Tretli S (2015) Author's response: Understanding variation in disease risk. *International Journal of Epidemiology* 44(4), 1426-1428.

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July 2016**