Several physiological, sensory and cognitive factors can affect the speech production and perception abilities of ‘older adult’ (OA) talkers. For example, in normal aging, auditory acuity decreases especially at higher frequency ranges, and there are also changes in attentional capacity and memory function. Together these age-related changes can lead to general slowing of sensory and motor performance, reduced motor control and sensory feedback that can have adverse effects for the entire speech production-perception system, especially in adverse listening conditions. In this talk, I will present results from our 3-year ESRC funded project investigating acoustic-phonetic adaptations made by OA and younger adult (YA) talkers when speech is produced with communicative intent in good and adverse listening conditions. Our preliminary results on speech production (N=83 talkers) show that, while OAs reduce their speaking rate to the same degree as YA talkers in adverse conditions, OAs with age-related hearing loss tended to increase vocal effort to counter the effects of adverse conditions while OAs with normal hearing thresholds and YAs did not show this tendency. Furthermore, the results from our perceptual task (N=70 listeners) show that YA talkers are more intelligible than OA talkers for all listener groups (YA, OA with/without hearing loss), and that, when speaking ‘clearly’ to counter the effect of the communication barrier, OA talkers do not show the same intelligibility enhancement of clear speech as younger talkers.