A previous study has shown the first fit benefit of a new Tonal adaptation of the Adaptive Phonak Digital (APDT) fitting formula compared to the Standard adaptation (APDS) for Mandarin speaking hearing impaired people. This study is an investigation of the performance of the APDT fitting formula for Mandarin-speaking Chinese using the Mandarin Hearing in Noise Test (MHINT) at the hearing center and was sent home with it for 2 to 4 weeks. Subjects were called back every two weeks to repeat the above questionnaire and speech test both in quiet and in noise. The comparison of the performance between the first and follow-up visits indicates the following:

1. significant improvement for MHINT in quiet over four weeks of APDT adaptation;
2. although not significant, 12 out of 19 subjects showed improvement for MHINT in noise over four weeks of APDT adaptation;
3. significantly better settings across all four different listening situations over the adaptation period.

Mandarin (Putonghua) is a tonal language spoken by 1.3 billion people in mainland China. One main difference between tonal and non-tonal languages is the change of the lexical meaning of a syllable by changing the tone pitch or pronunciation. While the Long Time Average Spectral Speech (LTASS) is a good descriptor of a non-tonal language [1], multiple released Frequency Important Functions [2] exhibit a higher importance of the lower frequency zones below 1kHz and the area around 2kHz for Mandarin than English [3, 4]. Tonal hearing loss has a lower magnitude in low frequencies. The current study is an investigation of the performance of the APDT fitting formula for Mandarin-speaking Chinese using the Mandarin Hearing in Noise Test (MHINT) at the hearing center and was sent home with it for 2 to 4 weeks. Subjects were called back every two weeks to repeat the above questionnaire and speech test both in quiet and in noise. The comparison of the performance between the first and follow-up visits indicates the following:

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Methods

- **Subjects**
  - 14 subjects
  - 2 inexperienced, 17 experienced
  - Moderate to severe binaural hearing loss
  - Mean age 67.0 years (youngest 30; oldest 87 years)
- **Test Devices**
  - Phonak Bolero Q50-P and SP
  - Fitted with APDS or APDT
- **Settings**
  - Ear fitted Monaural fitting
  - Ear fitted Standard mono and uni naral ear tip
  - Program: default automatic
  - Ear fitted limited to minimum required by the subjects
- **Data Collection Location**
  - Otolaryngology - Head & Neck Surgery, Beijing Tongren Hospital, Beijing Institute of Otolaryngology, Capital Medical University, Beijing, China.