

Background

- Polypharmacy, which is the simultaneous use of more than one medication, is now common and its rates in the United States continue to climb¹.
- New drug development, multidrug regimens, and the increasing complexity of medical care are contributing factors to this trend.
- Older Americans (age 60 and over) disproportionately account for polypharmacy.
- Among nursing home residents, rates of polypharmacy > 5 drugs and > 7 drugs range from 25% to 56% and 5% to 30%, respectively.⁴
- Roughly one in five prescriptions given to older adults in a primary care setting was found to be inappropriate².
- Adverse drug reaction (ADR) and adverse drug events (ADE) are common, especially in the elderly given their higher rates of polypharmacy, and they may be poorly appreciated.
- Otologic ADRs include hearing loss, tinnitus, vertigo and dizziness, and each of these contribute significantly to poor QOL and falls risk in the elderly.

Objectives

- To determine the frequency of otologic adverse effects of the 100 most commonly prescribed branded drugs in the United States.
- Increase awareness among otolaryngologists and primary care physicians of otologic adverse events of these drugs.

Methods

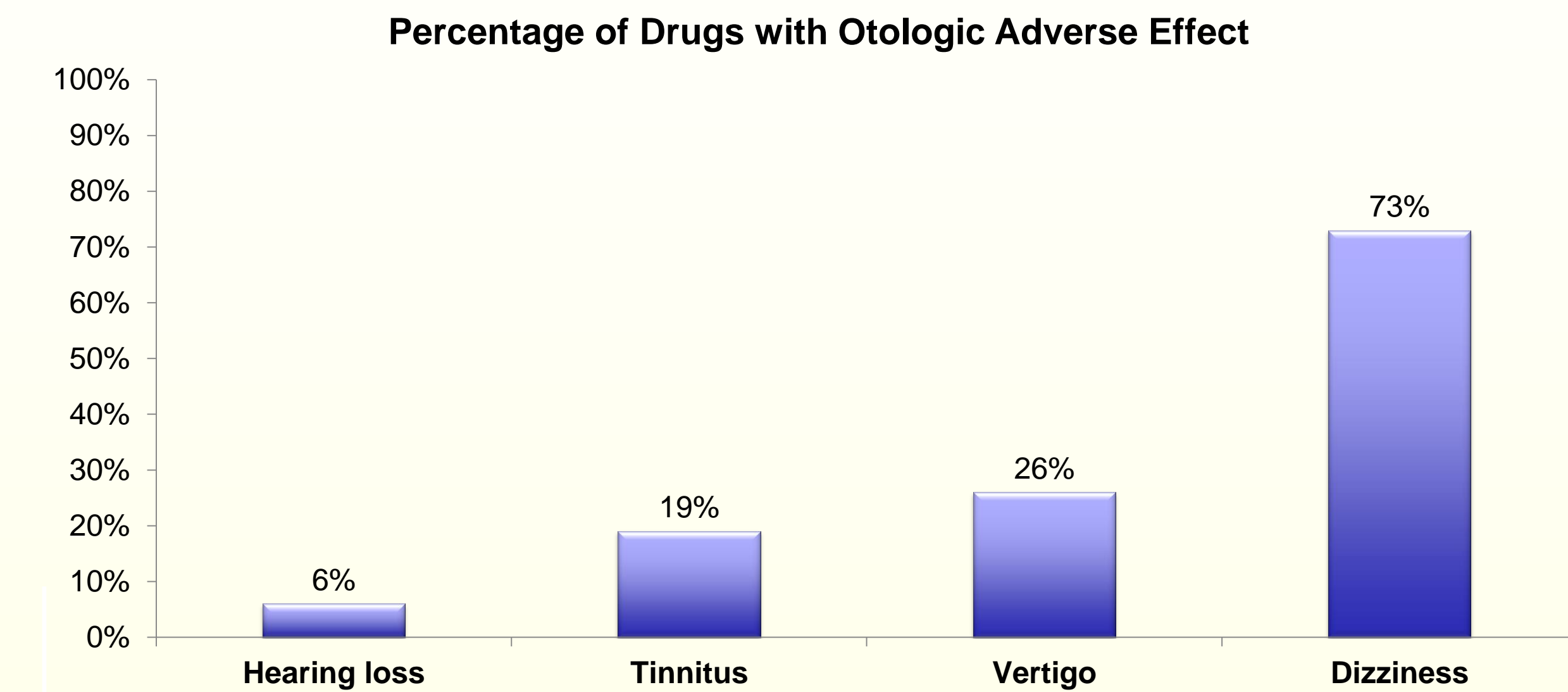
- A list of the 100 most prescribed branded drugs³ was employed.
- U.S. Federal Drug Administration (FDA) prescribing information (insert) for each drug was searched for the following terms: hearing loss, tinnitus, vertigo, and dizziness.
- The frequency for each side effect was tabulated and dose-related otologic adverse effects were collected when available.

Results

Drug Name	Hearing loss	Tinnitus	Vertigo	Dizziness
Synthroid	-	-	-	-
Crestor	-	-	-	+
Ventolin HFA	-	-	-	+
Nexium	-	+	+	+
Advair Diskus	-	-	-	-
Lantus Solostar	-	-	-	+
Vyvanse	-	-	-	+
Lyrica	-	+	+	+
Spiriva Handihaler	-	-	-	+
Januvia	-	-	-	-
xxLantus	-	-	-	+
Abilify	-	-	-	+
Symbicort	-	-	-	+
Tamiflu	-	-	+	-
Cialis	+	+	+	+
Viagra	+	+	+	+
Suboxone	-	-	-	+
Zetia	-	-	-	+
Xarelto	-	-	-	-
Bystolic	-	-	+	+
Celebrex	+	+	+	+
Nasonex	-	-	-	-
Namenda	-	-	+	+
Flovent HFA	-	-	-	+
Oxycontin	-	+	+	+
Diovan	-	-	+	+
Thyroid	-	-	-	-
Voltaren Gel	-	-	-	-
Nuvaring	-	-	-	+
Afluria	-	-	-	-
Dexilant	-	+	+	+
Benicar	-	-	+	+
Proventil HFA	-	-	-	+
Humalog	-	-	-	+
Novolog Flexpen	-	-	-	+
Novolog	-	-	-	+
Vesicare	-	-	-	+
Premarin	-	-	-	+
Benicar HCT	-	-	+	+
Lo Loestrin Fe	-	-	-	-
Lumigan	-	-	-	-
Namenda XR	-	-	+	+
Humalog Kwikpen	-	-	-	+
Janumet	-	-	-	+
Pataday	-	-	-	-
Ortho-Tri-Cy Lo 28	-	-	-	+
Travatan Z	-	-	-	-
Combivent Respimat	-	-	-	+
Toprol-XL	-	+	+	+
Pristiq	-	+	+	+

Drug Name	Hearing loss	Tinnitus	Vertigo	Dizziness
Invokana	-	-	-	+
Minastrin 24 Fe	-	-	-	+
Strattera	-	-	-	+
Seroquel XR	-	+	+	+
Vytorin	-	+	-	+
Focalin XR	-	-	-	+
Dulera	-	-	-	+
Levemir Flexpen	-	-	-	+
Zostavax	-	-	-	-
Avodart	-	-	-	+
Pradaxa	-	-	-	-
Chantix	+	+	+	+
Eliquis	-	-	-	-
Humira	-	-	-	-
Levemir Flextouch	-	-	-	+
Levemir	-	-	-	+
Victoza 3-Pak	-	-	-	+
Combigan	-	+	-	+
Exelon	-	+	+	+
Tradjenta	-	-	-	+
Premarin Vaginal	-	-	-	-
Enbrel	-	-	-	-
Onglyza	-	-	-	-
Ranexa	-	+	+	+
Truvada	-	-	-	+
Welchol	-	-	-	-
Linzess	-	-	-	-
Latuda	-	-	+	+
Alphagan P	-	-	-	+
Viibryd	-	-	-	+
Effient	-	-	-	+
Norvir	-	-	-	+
Amitiza	-	-	-	+
Azor	-	-	-	+
Advair HFA	-	-	-	+
Uloric	+	+	+	+
Lotemax	-	-	-	-
Myrbetriq	-	-	-	+
Asmanex Twisthaler	-	-	-	-
Epiduo	-	-	-	-
Xopenex HFA	-	-	+	+
Durezol	-	-	-	-
Patanol	-	-	-	-
Atripala	-	+	+	+
Aggrenox	+	+	-	+
Exforge	-	+	+	+
Humulin R	-	-	-	+
Carafate	-	-	+	+
Novolog Flexpen Mix 7-3-	-	-	-	+
Relpax	-	-	-	+

Results



Conclusion

- Potential otologic side effects including dizziness, vertigo, tinnitus and hearing loss are very common among the 100 most frequently prescribed drugs in the United States.
- Otolaryngologists and primary care physicians need to be aware of these possible side effects and should carefully review patients' medications and their possible side effects when they prescribe these medications and/or present with an otologic complaint.
- Tinnitus and hearing loss, seen in 10% and 6% of these patients, can contribute to communication difficulties.
- With dizziness as a potential side effect in ¾ of these common medications and vertigo in ¼, healthcare providers, hospitals, and healthcare systems should be alert to the increased falls risk inherent in these patients.

References

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