

# Influenza Adherence Tool Kit

## Implementation and evaluation among allogeneic hematopoietic transplantation recipients

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**BACKGROUND:** Allogeneic transplantation is associated with significant complications, such as influenza, a common virus in the post-transplantation setting that can be detrimental to patients. Therefore, patients should adhere to influenza vaccinations.

**OBJECTIVES:** The objectives of this project were to improve influenza adherence rates from 2015–2016, to increase transplantation recipients' knowledge of the importance of vaccination, and to evaluate the barriers to and facilitators of adherence rates to influenza vaccinations.

**METHODS:** A pre-/postscreening survey was used, as well as a tool kit with an education pamphlet and financial incentive, and a reminder letter.

**FINDINGS:** Forty-eight eligible patients participated in the study, and 32 completed the prescreening questionnaire. The adherence rate for the 2015–2016 influenza season improved compared to the baseline vaccination rate. The findings revealed a strong association between provider recommendation and vaccination adherence.

### KEYWORDS

influenza vaccination; tool kit; vaccination adherence; provider referrals

### DIGITAL OBJECT IDENTIFIER

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**BECAUSE OF ADVANCES IN ALLOGENEIC TRANSPLANTATION**, 500,000 allogeneic transplantation survivors are expected to be living in 2020 (Savani, 2012). Significant morbidity and mortality in the transplantation population are associated with complications related to the influenza virus, such as pneumonia, hospitalization, adult respiratory distress syndrome, and graft-versus-host disease (GVHD) (Shah, Ghantaji, Mulanovich, Ariza-Heredia, & Chemaly, 2012). The incidence of influenza in hematopoietic stem cell recipients is 7%–35%, with a 15%–35% mortality rate (Shah et al., 2012). Contracting the influenza virus is a concern for allogeneic transplantation survivors because they may not have full immune reconstitution until 18–24 months after transplantation (Seggewiss & Einsele, 2010).

The prevention of respiratory infections from the influenza virus in transplantation recipients is crucial (Ferguson, Jordens, & Gilroy, 2010) and is accomplished through vaccinations and avoiding people who are sick (Ferguson et al., 2010). However, vaccinations may not be as effective post-transplantation because of GVHD and immune reconstitution (Beck et al., 2011; Dhédin et al., 2014; Mohty et al., 2012). Despite the debated effectiveness of the influenza vaccination, the Centers for Disease Control and Prevention (CDC), American Society for Blood and Marrow Transplant (ASBMT), and the National Comprehensive Cancer Network (NCCN) recommend vaccination in transplantation survivors starting six months post-transplantation and continuing for their lifetime (Denlinger et al., 2014; Kunisaki & Janoff, 2009; Machado et al., 2005).

One retrospective study reported that active infection, blood count abnormalities, and GVHD were associated with vaccination adherence delays (Lerchenfeldt, Cronin, & Chandrasekar, 2013). The recommendation for the influenza vaccination is based on observational studies and occasional randomized clinical trials (Eliakim-Raz, Vinograd, Zalmoanovici Trestioreanu, Leibovici, & Paul, 2013; Machado et al., 2005). One study (Ariza-Heredia et al., 2014) explored providers' attitudes about vaccination guidelines and gaps between practices. This study focused on finding out why, from providers' perspectives, wide variations in vaccination practices exist in the allogeneic transplantation setting. The findings demonstrated that providers were knowledgeable about vaccinations in the transplantation setting, but they