



Cochrane Nursing Care Field (CNCF) – A Cochrane Review Summary

Patient reminder and recall interventions to improve immunization rates: A Cochrane review summary

Jacqueline Pich¹

Faculty of Health, UTS, Sydney, Australia

1. Background

Global vaccination rates for children and adults vary widely; and while they have been increasing in recent years, coverage levels have not reached optimal goals in many areas. During 2016, the World Health Organization (WHO) reported that 86% of infants worldwide had received the three doses of the diphtheria-tetanus-pertussis (DTP) vaccine and 130 countries had reached 90% coverage. However an estimated 19.5 million infants were not vaccinated with routine immunizations such as DTP, and one in 10 did not receive any vaccinations (WHO, 2018a). In developed countries, for example the United States, while immunization rates are high for infants and children, they remain below national goals for several vaccines, including influenza and for newer vaccinations such as human papillomavirus (HPV) (Jacobson Vann et al., 2018).

As a result of the shortfall in meeting immunization targets, vaccine preventable diseases still have a significant effect in a number of countries. For example, in 2015 there were an estimated 134 200 deaths worldwide due to measles (WHO, 2018b); while in the United States there are approximately 6.2 million people diagnosed with HPV and 26 000 new HPV cancers diagnosed each year (Jacobson Vann et al., 2018).

Patient reminder and recall interventions have been used as a primary health strategy to improve rates of immunization. Reminders inform patients or caregivers about upcoming immunizations; recalls inform patients and caregivers about overdue immunizations. They are delivered by letter, postcard, telephone call, computerized telephone call, text message or through electronic patient portals, and are based on the premise that immunizations can be missed or forgotten by patients for reasons such as the complexity of immunization schedules (Jacobson Vann et al., 2018).

2. Objective(s)

This systematic review aimed to evaluate and compare the effectiveness of various types of patient reminder and recall interventions to improve receipt of immunization.

3. Intervention and methods

The systematic review included randomised controlled trials (RCTs), controlled before and after studies, and interrupted time series studies. Observational studies and non-English language publications were excluded.

Based on the type of reminder or recall, including: letters, postcards, telephone calls, automated telephone calls (autodialer), text messages, messages within patient portals or emails, and several combinations of reminder-recall.

The types of patient reminder or recall interventions considered in this systematic review included telephone, letter, postcard, text message, automated electronic telephone calls (autodialer), patient portal-based interventions, in person outreach, and several combinations of reminder-recall. Participants included children, from birth to 18 years of age and adults, in any setting in developed and developing countries. Patients hospitalized for the study duration were excluded, as were immunizations obtained for travel.

The primary outcome measure was receipt of immunization, measured objectively.

4. Results

In total, 75 studies were included in this systematic review, 70 of which used a randomized trial design and five a controlled before and after design.

Immunization-participant outcomes were categorised into five groups based on the types of immunization received and age as listed below:

- Routine immunizations for infant and children;
- Childhood influenza vaccination;
- Adolescent immunizations;
- Routine immunizations for adults;
- Adult influenza vaccination.

The authors reported that overall, based on moderate certainty evidence, that immunization-focused patient reminder or recall interventions increased the number of immunizations. Patient reminder or recall interventions improved receipt of childhood, adolescent vaccinations, childhood influenza vaccinations based

¹ A member of the Cochrane Nursing Care (CNC).

on high certainty evidence. Patient reminder or recall interventions may improve the receipt of routine adult vaccinations based on low certainty evidence, adult influenza vaccinations based on moderate certainty evidence.

Reminder and recall interventions were found to improve the receipt of immunizations with a moderate to high certainty of evidence included:

- Telephone calls
- Letters
- Postcards;
- Text messages,
- Autodialer messages.

In studies that used a combination of mail and telephone calls, Dr. Jacobson Vann et al. reported an increase in receipt of immunization based on a moderate certainty of evidence. The authors reported no evidence of reporting bias.

5. Conclusions

Dr. Jacobson Vann et al. concluded that patient reminder and recall systems improved immunization coverage levels in primary care settings for children, adolescents and adults by an average of eight percentage points. Telephone reminders were identified as the most effective single intervention type, followed by letters. Interventions that combined more than one type of strategy were not observed to be as effective as the telephone or letter studies.

6. Implications for practice

Immunization rates must be kept at high levels in the population to be effective and to protect the community from vaccine preventable diseases. Therefore there is a need for reminder and recall interventions that can be used in primary health care settings to maintain and improve vaccination rates. In

many countries, nurses are typically the health professionals who administer vaccinations and so are ideally placed to facilitate vaccination compliance with their clients. Different types of patient reminder and recall systems can be tailored to suit specific provider or practice needs. For example while patient to patient telephone reminders were the most effective, they may be more costly than other methods.



The Mission of the Cochrane Nursing Care Field (CNCF) is to improve health outcomes through increasing the use of the Cochrane Library and supporting Cochrane's role by providing an evidence base for nurses and related healthcare professionals involved in delivering, leading or researching nursing care. The CNCF produces 'Cochrane Corner' columns (summaries of recent nursing-care-relevant Cochrane Reviews) that are regularly published in collaborating nursing-care-related journals. Information on the processes this Field has developed can be accessed at: <http://cncf.cochrane.org/evidence-transfer-program-review-summaries>.

References

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