
ORIGINAL ARTICLE

Improving Waiting Times for Radical Radiotherapy Treatment of Nasopharyngeal Cancer Based on Logistics Re-engineering

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ABSTRACT

Objectives: *Waiting time for radiotherapy is an important quality indicator for oncology services, and particularly so in the radical treatment for head and neck cancers where timing impacts treatment outcome. Reducing the waiting time for treatment is therefore highly desirable in nasopharyngeal cancer, which is the commonest head and neck cancer in this locality. Using existing resources, we aimed to reduce waiting time for such radiotherapy, whilst maintaining the quality of services. By identifying important bottlenecks in service delivery, we re-engineered workflow logistics to tackle radiotherapy waiting time holdups.*

Methods: *The changes in workflow were implemented in two phases. Phase 1 entailed: (i) Setting of a target deadline for radiotherapy commencement, measured from the first consultation. (ii) Prioritising magnetic resonance imaging appointments. Phase 2 entailed: (i) Earlier referral from regional ear, nose and throat departments upon endoscopic diagnosis of nasopharyngeal cancer. (ii) Booking of workup procedures immediately upon receipt of a referral letter (i.e. before the first visit). (iii) Seeing all newly referred patients within 2 weeks. Waiting times data for the period before, during, and after implementation of these logistic changes were compared.*

Results: *Data from 177 nasopharyngeal cancer patients showed a significant improvement in the waiting times for treatment after implementation of the logistic changes (diagnosis to treatment: 54 days vs. 38 days, $p < 0.001$). There was also a reduction in waiting times for critical workup procedures and a reduction in patients being referred out to other centres for treatment. These measures did not appear to impact on the waiting times for radical treatment of other cancers.*

Conclusions: *Logistical re-engineering is feasible and effective in reducing waiting times for radical nasopharyngeal cancer treatment.*

Key Words: *Nasopharyngeal neoplasms; Neoplasms; Radiotherapy; Time factors; Waiting lists*

中文摘要

重新設計工作流程以改善鼻咽癌患者接受根治性放射治療的輪候時間

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目的：腫瘤科其中一個重要的質素指標就是病人接受放射治療的輪候時間，尤其是對於頭頸癌患者來說，接受放射治療的時間大大影響治療結果。本地頭頸癌中以鼻咽癌最為普遍，而縮短放射治療的輪候時間對病人有相當益處。我們致力以現有資源和維持服務質素水平的情況下，改善鼻咽癌患者放射治療的輪候時間。我們找出服務系統的瓶頸，重新設計工作流程以改善放射治療的輪候時間。

方法：新工作流程主要分為以下兩個階段。第一階段包括（1）從首次應診日開始計算，為放射治

療的時間設定最後期限，（2）優先進行磁共振成像掃描。第二階段包括（1）盡早轉介於分區醫院耳鼻喉科得到內視鏡確診為鼻咽癌的病人，（2）收到轉介信後（在病人第一次應診前），醫院隨即為病人檢查作預約，（3）新的轉介個案須要在兩個星期內為病人應診。我們把實施新工作流程前、後、及正在實施階段中的輪候時間作比較。

結果：新工作流程實施後，大大縮短了共177位病人接受放射治療的輪候時間，從確診至治療的時間由54天縮短至38天（ $p < 0.001$ ）。安排重要檢查程序的輪候時間也較短，亦有較少的病人須要被轉介至其他中心接受治療。此外，新工作流程並沒有影響其他癌症病人的輪候根治性放療的時間。

結論：要改善鼻咽癌患者接受根治性放射治療的輪候時間，重新設計工作流程是可行及有效的。