



Selection of appropriate inpatients for outpatient parenteral antimicrobial therapy (OPAT) during the COVID pandemic

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ABSTRACT

Background: Providing a safe discharge in patients appropriate for outpatient parenteral antimicrobial therapy (OPAT) became an important focus of the inpatient to outpatient transition during the pandemic. Hospital beds were needed for ill patients with COVID, transfers in and out of facilities and interfacility infection became issues for long-term care (LTCF) and short-term nursing facilities (SNFs) in the US during the pandemic. We examine the traditional barriers, including age, and outcomes of patients selected for OPAT initiation during the pandemic period.

Methods: Washington DC VAMC (WDVAMC) is an urban medical center with 220 acute and LTC beds. At the start of the pandemic, a multidisciplinary OPAT program was initiated and led by ASP Nurse Practitioner (NP), supported by ASP Pharmacist and ASP/ID Physician. OPAT included care continued at home, SNF, LTC and hemodialysis locations; the OPAT program focus was on appropriate selection, post-discharge safety monitoring, outpatient follow-up at completion, tracking and outcome determination (30D, 90D readmissions). OPAT related readmissions related to drug or opat-indicated infection indication. Tracking performed with CDSS (TheraDoc, Inc) and EMR (VISTA, CPRS).

Results: Between April 2020-2022, 157 unique OPAT discharges (10.4 OPAT/1,000 admissions 2020 and 4.8 OPAT/1,000 admissions 2021); the majority were offered OPAT at home (47%). Mean duration OPAT 22±13 days over that period; most frequent indication osteomyelitis and BSI. OPAT related readmissions were infrequent at 30D (7%) and 90D (1%). The mean age was 67±13y with 5% >90yrs, 21% >75yrs and 58% >65yrs. In the pandemic 92% completed OPAT; compared to younger group those >75y, rates of completion (93% vs 92%, P=NS) and mean duration of OPAT were similar however a modest increase in 90D OPAT-related readmission (1.2% vs 0%, P=0.04). The only two deaths prior to completion of OPAT occurred in those >75y.

Conclusion: Transitions to OPAT are required for serious infections in hospitalized patients of all ages, however transitions to SNF and LTC were limited at times during the pandemic. We found OPAT can be delivered safely, regardless of age during a pandemic state with careful coordination between stakeholders to select appropriate patients and a systematic process to follow, monitor outcomes and track patients over the course of therapy, particularly for the elderly.

BACKGROUND

Since its inception in the 1970s, outpatient parenteral antimicrobial therapy (OPAT) has proven to be safe and effective for the treatment of moderate to severe infections that require prolonged intravenous antibiotics. Older people who commonly have comorbid conditions are at a higher risk for an OPAT-adverse related event. Our facility identified the following barriers to home discharge: substance use disorder, lack of a safe housing, lack of adequate support or caregiver.

The worldwide COVID-19 pandemic resulted in changes in patterns of outpatient services due to clinic closures and conversions to tele-medicine visits. Inpatient admissions were impacted with reductions in scheduled procedures and increase in admissions for respiratory related admissions. Both in and outpatient healthcare interactions were impacted by staffing and PPE shortages, leading to different patterns in health care. Providing a safe discharge in patients appropriate for outpatient parenteral antimicrobial therapy (OPAT) became an important focus of the inpatient to outpatient transition during the pandemic. Factors complicating OPAT transitions in the US during the pandemic included hospital beds were needed for ill patients with COVID; transfers in and out of facilities and interfacility infection became issues for long-term care (LTCF) and short-term nursing facilities (SNFs), patient's reluctance to transfer to another facility due to fear of becoming infected with COVID. The purpose of this review was to examine the traditional barriers and assess for new barriers on elderly and those with advanced ages when selected for OPAT initiation during the pandemic period.

METHODS

The Washington DC VAMC is an urban medical center with 220 acute and LTC beds. At the start of the pandemic, a multidisciplinary OPAT program was under the Antimicrobial Stewardship Program; it was led by ASP Nurse Practitioner (NP). The NP was supported by an ASP Pharmacist and ASP/ID Physician. OPAT monitoring and interventions were for both discharge to home (PICC or with HD catheter) with contracted Pharmacy/Nursing and those transferred to outside facility (LTC, NH or SNF) with skilled need. The OPAT program focus was on appropriate selection, post-discharge safety monitoring, outpatient follow-up at completion, tracking and outcome determination (30D, 90D readmissions). OPAT related readmissions were defined as drug or line related infection. The type of agent and indication were determined by the ID consultant team, working in close collaboration with OPAT/ASP. Tracking performed with CDSS (TheraDoc, Inc) and EMR (VISTA, CPRS).

RESULTS SUMMARY AND DISCUSSION

Between April 2020-2022, 157 unique OPAT discharges (10.4 OPAT/1,000 admissions 2020 and 4.8 OPAT/1,000 admissions 2021) were achieved during the pandemic period. This included surge periods of significant impact to our patient population. NP-led OPAT team identified facility and contractor stakeholders, established a culture of safety-focused discharges to both home and facilities and worked to establish pandemic-related protocols, EMR-improvements and educational efforts with prescribers. The majority of OPAT related discharges occurred among patients over the age of 65 years (57%) with extremes of ages comprising a significant proportion of the successful discharges (ages greater than 75, 85 and 90 years).

Nearly 60% of discharges were to the home setting, reflecting the concerns for transmission within LTCFs. There were fewer discharges to home in the older group. Pandemic related protocols precluded the discharge to facility or home with active COVID infection.

Mean duration OPAT reflected the serious infectious indications requiring continuation of therapy post-hospitalization. Duration of OPAT ranged from 8 to 59 days; over a third of doses given more than four weeks, reflecting the indications for complicated bacteremia and deep-seated bone, joint infections necessitating longer duration therapy. Over 90% of pandemic related OPAT discharges completed therapy, regardless of age.

To reduce the risk of COVID-19 among this vulnerable patient population, providers overseeing OPAT care needed to consider the relative safety of the OPAT transition sites. We found OPAT can be delivered safely, regardless of age during a pandemic state with careful coordination between stakeholders to select appropriate patients and a systematic process to follow, monitor outcomes and track patients over the course of therapy, particularly for the elderly.