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Primary healthcare-based integrated care with opioid agonist treatment: First experience from Ukraine

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ABSTRACT

Background: Ukraine's HIV epidemic is concentrated among people who inject drugs (PWID), however, coverage with opioid agonist therapies (OATs) available mostly at specialty addiction clinics is extremely low. OAT integrated into primary healthcare clinics (PHCs) provides an opportunity for integrating comprehensive healthcare services and scaling up OAT.
Methods: A pilot study of PHC-based integrated care for drug users conducted in two Ukrainian cities between 2014 and 2016 included three sub-studies: 1) cross-sectional treatment site preference assessment among current OAT patients (N = 755); 2) observational cohort of 107 PWID who continued the standard of care versus transition of stabilized and newly enrolled PWID into PHC-based integrated care; and 3) pre/post analysis of attitudes toward PWID and HIV patients by PHC staff (N = 26).
Results: Among 755 OAT patients, 53.5% preferred receiving OAT at PHCs, which was independently correlated with convenience, trust in physician, and treatment with methadone (vs. buprenorphine). In 107 PWID observed over 6 months, retention in treatment was high: 89% in PWID continuing OAT in specialty addiction treatment settings (standard of care) vs 94% in PWID transitioning to PHCs; and 80% among PWID newly initiating OAT in PHCs. Overall, satisfaction with treatment, subjective self-perception of well-being, and trust in physician significantly increased in patients prescribed OAT in PHCs. Among PHC staff, attitudes towards PWID and HIV patients significantly improved over time.
Conclusions: OAT can be successfully integrated into primary care in low and middle-income countries and improves outcomes in both patients and clinicians while potentially scaling-up OAT for PWID.

1. Introduction

Ukraine's HIV epidemic is volatile and concentrated in people who inject drugs (PWID). PWID continue to have suboptimal access to HIV prevention and treatment services (UNAIDS, 2016a,b), which undermines the national response to HIV. Opioid agonist therapies (OATs) like methadone and buprenorphine, evidence-based interventions that reduce HIV transmission and morbidity and mortality from opioid use, first started in Ukraine in 2004 (Bruce et al., 2007), yet are under-scaled such that only 2.7% of the 310,000 PWID currently receive this treatment (Bojko et al., 2016; Wolfe et al., 2010).

Since 2004, OAT in Ukraine has primarily been provided in specialty addiction treatment clinics known as Narcology Centers. These settings are vestiges of a Soviet-style discipline of addiction treatment that traditionally did not deploy evidence-based strategies (Latypov, 2011). Soviet-style healthcare services have prioritized siloed specialty care delivery and consequently weakened primary healthcare services. OAT in Ukraine requires that methadone and buprenorphine be supervised daily through required visits to these centers, even for patients who are deemed medically stable. Moreover, Narcology Centers are often inconvenient for patients by virtue of being located in remote areas with long lines due to limited hours of operation (Bojko et al., 2015; Bojko et al., 2016). With the exception of where OAT is provided in integrated care settings (Bachireddy et al., 2014), additional services that prevent or treat other medical co-morbidities are often absent, with the exception of annual screening for tuberculosis or HIV testing.

Primary healthcare clinics (PHCs), however, provide routine medical care for non-specialty conditions and are embedded within

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polyclinics. Prevention and treatment services for addiction, HIV and tuberculosis have not been available in these settings. Expected international funding reductions anticipated in 2017 prompted new healthcare reform and financing efforts by Ukraine's Ministry of Health to reduce emphasis on specialty care and strengthen primary care for medically complex and socially vulnerable patients like PWID. This is especially crucial since provision of OAT in PHCs is effective in many other international settings (Bachireddy et al., 2015). Despite international recommendations to integrate OAT and PHCs (CDC, 2012; Sylla et al., 2007; Thompson et al., 2012; WHO/UNODC/UNAIDS, 2008), there is little empirical guidance for administrators, clinicians, policy-makers and funders. Real-world demonstration projects with PWID are needed to help guide policy and delivery practices. While OAT services have been integrated into HIV and TB specialty services (Bachireddy et al., 2014; Morozova et al., 2013), until recently, integration into PHCs was not allowable. Now in the setting of a weakened economy and unbridled HIV epidemic, Ukraine's Ministry of Health has called for sweeping healthcare reform, including strengthening of PHC-based services, which provides new opportunities for empirically testing innovative strategies. One strategy recommended to scale-up OAT services is to provide it in a number of non-specialty settings like PHCs and pharmacies, which could reduce barriers to treatment entry and promote retention (Bachireddy et al., 2015; Bojko et al., 2015). OAT integrated into PHCs has been examined in high-income settings (Carrieri et al., 2014; Parmenter et al., 2013; Weisner et al., 2001), yet has not been implemented in low or middle-income settings in Eastern Europe and Central Asia, the only UNAIDS region where HIV morbidity and mortality continue to increase (UNAIDS, 2016a).

To determine if such an integrated care strategy would work in Ukraine, we conducted a series of pilot studies of OAT integrated into PHCs in two Ukrainian cities, Mykolaiv and Poltava, to assess: 1) the feasibility of the pilot intervention in Ukrainian context; 2) retention in treatment; 3) patient satisfaction with the pilot intervention; and 4) the attitudes of primary care providers towards PWID. This paper provides a summary of key findings from this pilot.

2. Methods

2.1. Study sites

In both Mykolaiv and Poltava, district PHCs and addiction specialty clinics were selected for participation (one PHC in Mykolaiv and two in Poltava). To assess patient preferences about where they would prefer to receive OAT, an additional specialty addiction site in Kyiv was selected.

2.2. Study participants and design

Three sub-studies to address the aims included:

2.2.1. Assessment of preferences among current OAT patients. An anonymous cross-sectional survey of 755 current OAT patients at specialty addiction clinics in Mykolaiv, Poltava and Kyiv was conducted to assess patients' preferences in terms of where they prefer to receive OAT. Eligibility included: 1) age ≥18 years; 2) prescribed OAT at a specialty addiction clinic; and 3) verbal consent. Survey items included patient preference related to type of treating physician, location (convenience), stigma and police harassment, and overall preference.

2.2.2. Assessment of PHC-based OAT among patients transitioning from specialty addiction clinics and new patients initiating OAT at the PHCs. OAT patients in the longitudinal cohort were observed for six months and included those who: 1) continued to receive OAT at the specialty addiction clinics (N = 36); 2) transitioned from specialty to PHC-based OAT (N = 31), and 3) initiated OAT in PHC (N = 40). Groups 1 and 2 were randomly selected from current OAT patients and recruited within Narcology Centers. Group 3 patients included newly recruited, opioid dependent PWID interested in receiving OAT, but were required to receive it at the PHC. Groups 1 and 2 patients must also have been on a stable dose of methadone for at least 10 days prior to enrollment, not have an outstanding police warrant, not planning to move in the next 6 months, and willing to be allocated to either condition. Participants were surveyed at baseline and after 6 months and willing to have their medical charts reviewed.

The *a priori* pre-specified primary outcome was retention in treatment over 6 months. Group 1 participants were only assessed for the primary outcome based on chart review of medication-administration records. Secondary outcomes included changes in the satisfaction with their methadone treatment, health-related quality of life and health well-being, illicit drug use, HIV and HCV diagnostics and treatment, use of non-addiction treatment medical services, and trust in physician. Secondary outcomes were only assessed for Groups 2 and 3, and participants from these groups provided additional self-reports within structured surveys at baseline and six months. Where needed, survey items were translated and back-translated to ensure comprehension (Brislin, 1970), and included the following validated scales: satisfaction with receiving methadone (5-point Likert); scale assessing opioid craving (10-point Likert); the 11-item trust in physician scale (Anderson and Dedrick, 1990); health-related quality of life (HRQoL) scale (12-item short-form, second version) (Ware et al., 1996), and subjective changes in physical and mental health (5-point Likert). We analyzed HRQoL by producing a single aggregate score that varies from 0 to 100, where higher scores reflect better health status. The aggregate score was calculated as an unweighted average of scores in eight standard domains of functioning and well-being.

2.2.3. Assessment of attitudes among medical providers at the PHC facilities. Medical staff at the three PHCs were assessed at baseline and after six months, including: 1) chief administrators and medical directors (N = 6); 2) primary care doctors and nurses directly (N = 11) and indirectly (N = 9) involved in providing integrated care to PWID. They answered structured surveys at baseline and after six months and completed in-depth interviews after six months. Structured surveys included 10-point feeling thermometers (Alwin, 1997) about treating general, PWID and HIV patients, which has been adapted for other contexts (Earnshaw et al., 2014; Jin et al., 2014).

2.3. Data analysis

Statistical analysis was done in R Statistical Software (Foundation for Statistical Computing, Vienna, Austria). Correlates of preference for OAT treatment site were analyzed using multivariate logistic regression, where independent variables included location (convenience), type of OAT (methadone vs buprenorphine), age and other factors that could influence preference: stigma, police harassment, and physician trust. Chi-squared testing (or Fisher's exact test) for categorical variables and Student *t*-test (or ANOVA) for continuous variables assessed significance. In the observational study, a pre/post comparison was performed using McNemar's and paired Student *t*-test for categorical and continuous variables, respectively.