BACKGROUND
Nitrofurantoïn is an oral antibiotic effective for the treatment of urinary tract infection and of particular activity against ESBL-producing E. coli. Safety concerns include severe pulmonary and hepatic adverse reactions. Since March 2012, in France the use of nitrofurantoïn has been restricted to the treatment of symptomatic cystitis for girls aged 6 years and older, adolescent girls and women under the conditions of a microbiological documentation and a lack of oral therapeutic alternatives, as specified in Dear Healthcare Professional Letters in 2012 and 2014. Nevertheless an empiric use may still be considered under certain conditions.

OBJECTIVES
To assess the compliance with therapeutic indication and national guidelines in France.

METHODS
A cohort of 7,660 subjects who initiated a nitrofurantoïn treatment from March 1st, 2012 to February 28th, 2015 was identified using EGB database, a representative sample of the population protected by the French National Health Insurance.

Use of nitrofurantoïn was considered as documented if a cytobacteriological examination of urine (CBEU) had been performed between 7 and 2 days before nitrofurantoïn’s dispensing. An empiric use was assumed if a CBEU had been performed within 2 days before nitrofurantoïn’s dispensing or prescribed the day of the dispensing and performed the day after nitrofurantoïn’s dispensing. Nitrofurantoïn initiations in men or in the absence of CBEU in women were considered as non-compliant.

The frequencies of non-compliant, documented and empiric use of nitrofurantoïn were assessed. In addition, characteristics associated with documented use of nitrofurantoïn were identified using a logistic regression comparing women with a documented use versus those without CBEU.

RESULTS
Overall, 15% of the users were men and 45% were women with no CBEU performed prior to nitrofurantoïn initiation, resulting in an overall rate of non-compliant use of 60%. A documented use in women accounted for 26% of treatment courses and an empiric use for 14% of treatment courses.

Documented use was significantly more frequent at treatment initiation compared to subsequent treatment courses (55.9% vs. 69.4%, p<0.0001). Age above 60 years, treatment duration of more than 7 days and prior antibiotics’ courses were also significantly associated with an increased frequency of documented use of nitrofurantoïn. Despite a slight decrease of nitrofurantoïn’s dispensing from March 2014, no sizeable modifications in the rates of documented use was found during the study period.

CONCLUSIONS
This study shows a persistently low compliance with therapeutic indication and guidelines for nitrofurantoïn use in France.