The administration conditions of intravenous iron products (IIP) must be further supported due to safety concerns, according to a decision made by the European Commission (September 13, 2013). To achieve this European decision, French Health Authorities gave to IIP a hospital-resticted status (HRS) with two consequences on the IIP circuit: i) the dispensing of this products is now authorized by hospital pharmacies only; ii) the administration of IIP to patients must be done in a health care facility (including dialysis facilities and day care facilities). This involve that the patient must now be hospitalized to receive an intravenous iron treatment.

**Objective**

To assess the global economic consequences for French acute care (medicine, surgery and obstetric (MSO) activities) hospitals of the European decision to further support the administration conditions of intravenous iron products.

**Methods**

- **Determination of the changes in IIP consumption and expenditures** (data extracted from SAP software) by a two-steps study:
  1. Impact of the new HRS of IIP: comparison of IIP consumption and expenditures on a same period before (February-April 2013) and after (February-April 2014) they were attributed a HRS (1).
  2. Economic burden of IIP assessment: comparison of IIP consumption and expenditures in 2012 vs. in 2013 (before they were attributed a HRS) (2).

- **Determination of the evolution of the number of hospitalizations** in diagnosis related group (DRG) “sessions of chemotherapy for non-tumor disease” (DRG-CNTD) which linked diagnosis is anemia (Technical Agency of Information on Hospitals (ATIH) data extracted via Infocentre software) in February-April 2013 compared to February-April 2014.

**Results**

20 hospitals were included. Two types of IIP which belong to the ATC class B03AC were listed in the AP-HP HDF:

<table>
<thead>
<tr>
<th>INN</th>
<th>Trade name</th>
<th>Dosing</th>
<th>Cost of daily treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron sucrose (IS)</td>
<td>FerSâ® 100 mg/5 mL. For Mysâ® 100 mg/5 mL.</td>
<td>1. Determination of the total dose and of the dosing schedules: 2. Recommended adult dosing is 100 to 200 mg of iron, injection, one to three times a week</td>
<td>€5.2 to €7.8</td>
</tr>
<tr>
<td>Ferric carboxymaltose (FC)</td>
<td>Ferinjectâ® 100 mg/2 mL, Ferinjectâ® 500 mg/10 mL.</td>
<td>1. Determination of the cumulative dose of iron which should not be exceeded 2. Do not exceed 1,000 mg of iron/day (or 200 mg/day in case of hemodialysis patients) and 1,000 mg of iron once a week.</td>
<td>€120 to €150</td>
</tr>
</tbody>
</table>

**Impact of the new HRS of IIP (1)**

Global evolution on 3 months, before-after the HRS
- 16.3% part of the total consumption increase in volume (DDDs) +39% DDDs in 2014 vs. in 2013
- + € 164,338

**Economic burden of IIP assessment (2)**

Global evolution in a year, before the HRS
- 9.6% part of the total consumption increase in volume (DDDs) +21.4% DDDs in 2013 vs. in 2012
- + € 171,022

**Conclusion**

Hospitalizing patients in a day care department as part of the DRG-CNTD is the only way to finance the additional hospital activity and the cost of treatment generated by the new hospital-resticted status of IIP, as no additional funding is provided for others hospital admissions. The major part of the IIP consumption and expenditure increase is attributable to a growing FC use. This is certainly due to its simplified administration scheme compared to IS's. However, the cost of daily treatment by FC is about 20 times higher than by IS, while only one tariff (€362.4 in 2014) is allocated for hospitalizations in DRG-CNTD, with a drug case-mix of € 62 whatever the drug. As a result, the costs of the FC increasing use to manage anemia may be offset by administration of other drugs, using the DRG-CNTD or the tariff of this DRG should be adjusted to the effective use of IIP. Another alternative would be to implement a tender between IIP, taking into account the cost-effect ratio of each drug.