

Impact Assessment 2015

eclipse **radar**

Impact Assessment

Eclipse Radar automatically identifies patients at risk of drug related emergency admissions. Its use is associated with a dramatic reduction in emergency admissions, referrals and Accident and Emergency attendances. Please find enclosed our latest analysis.



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Background

Eclipse Radar is a medicines optimisation dashboard focused on improving patient safety. This admissions avoidance software system is currently being utilised by over 1000 surgeries across England. During 2014 more than 10 billion safety algorithms were run on the 7.2million patients being protected by the system, identifying over 500,000 significant admission avoidance alerts. NHS information (HES data) from 2013 validated a relative reduction in emergency admissions of 7% on the 3.5million patients receiving Eclipse protection compared to the national background levels. Having doubled the number of surgeries, a further evaluation was needed to validate the impact of the Eclipse medicines optimisation system.

Objectives:

Eclipse Radar was designed to address three key parameters:

1. To identify patients at risk of emergency hospital admissions.
2. To successfully prevent these patients from an adverse outcome.
3. To improve the overall cost-effectiveness of healthcare within the NHS.

Method:

In order for a true evaluation of the system to be undertaken, each of the objective parameters needed to be individually assessed. Although reduction in bias will never be absolute, it was significantly reduced by comparing the surgeries within the Eclipse Radar group to background standardised data for national trends.

Any remaining bias could be eradicated by creating an additional comparison between surgeries that utilised the Eclipse medicines optimisation dashboard on a regular basis (The Orange Group) compared to those that have the system but use it less frequently (The Blue Group).

Data from the HSCIC (HES), NHS Business Services Authority (ePACT), Dictionary of Medicines & Devices was used to allow standardised analysis of each surgery, looking at the relative impact that utilisation of the Eclipse system had on medicines procurement costs, total emergency hospital admission rates, total hospital admission rates, Accident & Emergency attendances, outpatient attendances and the overall cost of patient care, combining these variables.

Analysis:

The analysis was undertaken utilising data from the period July 2013 to June 2014. Of the 1250 surgeries currently using the system, only 815 qualified by having full activation and complete Eclipse Radar datasets at the time of the analysis.

The analysis was repeated for those surgeries with the highest review rate of medicines optimisation alerts to see if increased compliance with the suggested actions further improved patient outcomes.

Results:

523,000 Admissions Avoidance Alerts were identified by the system during the year, of which 124,000 were formally reviewed by the end user.

All patient outcomes were significantly improved within the Eclipse user groups. ($P < 0.0001$)

Emergency admissions were reduced by 6.4% within the overall eclipse group (Blue Group) with an additional 7.8% within the frequent user group (Orange Group) ($p < 0.001$). Emergency admissions costs were reduced by 7.6% (Blue Group) and 14.5% (Orange Group) ($p < 0.001$).*

Total hospital admissions were reduced by 4.5% (Blue Group) and 5.5% (Orange Group) with respective cost reductions of 4.2% and 7.9% ($p < 0.005$).

Total outpatient attendances were reduced by 3.4% (Blue Group) and 5.6% (Orange Group) with respective cost reductions of 3.0% and 5.3% ($p < 0.005$).

Total accident & emergency attendances were reduced by 9.5% (Blue Group) and 17.8% (Orange Group) with respective cost reductions of 9.8% and 16.8%.

Discussion:

The Eclipse medicines optimisation system appears to have successfully completed all three objectives. It successfully identified more than 500,000 Admission Avoidance Alerts.

The Eclipse system is not only directly associated with statistically significant reductions in emergency admissions, but also when Eclipse patients are admitted, they have a significant cost reduction per hospital episode, implying that they have diminished morbidity or they are treated more efficiently.

Outpatient reductions are significant but, despite an overall cost reduction, the relative cost per outpatient episode is increased, potentially implying improved appropriateness of referrals.

CONCLUSION:

The Eclipse medicines optimisation dashboard successfully identified over 500,000 patients at risk of emergency hospital admissions and was directly associated with the prevention of 42,000 emergency patient admissions, 280,000 A&E attendances, 98,000 Hospital Admissions, and 296,000 outpatient attendances.

There was an overall cost saving of £41 per patient equating to a total saving of £295 million for those patients protected by the eclipse medicines optimisation dashboard.

Despite these dramatic improvements in patient outcomes there is still significant potential to further improve NHS outcomes through wider adoption of the medicines optimisation system.

*see page 8-9

Analysis

Does it work?

Eclipse Solutions has just completed an extensive analysis utilising detailed outcome metrics from the NHS Information Centre on all of its Eclipse Radar surgeries. We wanted to look at the association between the use of this system and outcomes related to admissions, emergencies and referrals.

The results can be found in detail over the following pages and whilst it is difficult to prove they are a direct consequence of Eclipse Radar, their association is clearly encouraging. What is even more exciting is that there is also a further improvement in outcomes achieved by those surgeries that log in the most.

The Analysis

Of our 1250 surgeries, 815 qualified by having full activation and complete Eclipse Radar datasets at the time of the analysis. We then repeated the process for those surgeries that had the highest usage of our system (the top 20%) to see if increased utilisation was associated with improved outcomes.

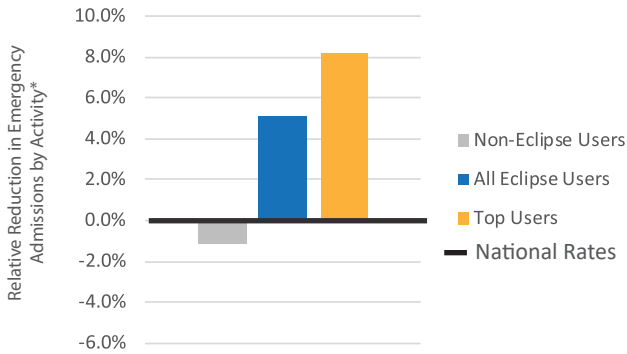
The outcomes looked at:

1. Emergency Hospital Admissions
2. Total Hospital Admissions
3. Outpatient Attendances
4. Accident and Emergency Attendance

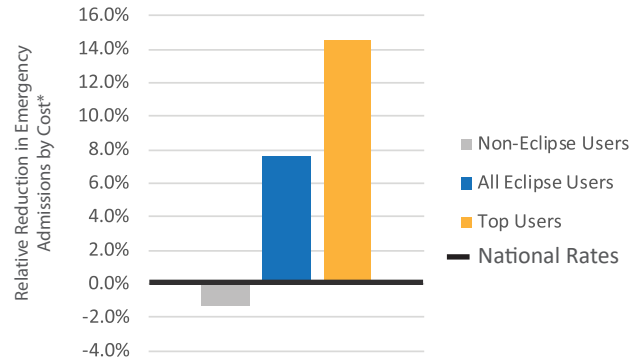
The data source for this analysis is the latest validated data from the NHS Information centre as of June 2015.

Emergency Admissions Analysis

Relative Reduction in Emergency Admissions

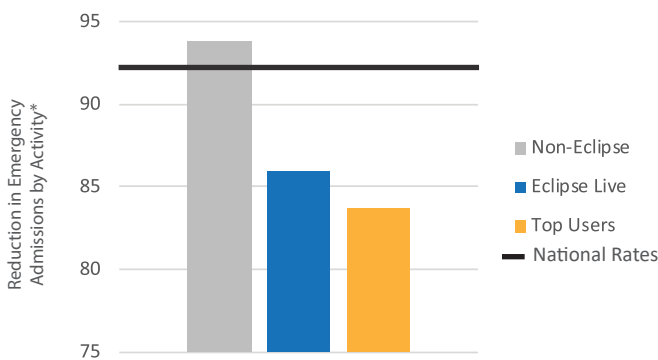


Figures are based on the number of patients / 1000 admitted in 1 year (2014)

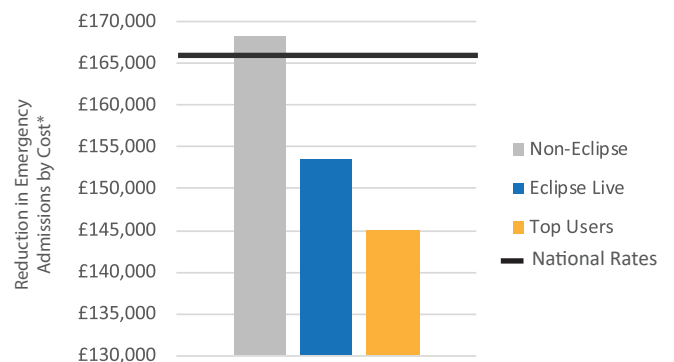


Figures are based on cost per 1000 patients per year (2014)

Standardised Rates of Emergency Admissions



Figures are based on the number of patients / 1000 admitted in 1 year (2014)



Figures are based on cost per 1000 patients per year (2014)

Emergency Admissions Data

Emergency Admissions Activity Data

Emergency Admissions Standardised Rate Activity for National	90.6
Emergency Admissions Standardised Rate Activity for Non-Eclipse Users	93.8 (+1.1%)
Emergency Admissions Standardised Rate Activity for All Eclipse Users	84.8 (-6.4%)
Emergency Admissions Standardised Rate Activity for Top Users	83.5 (-7.8%)

Figures are based on the number of patients / 1000 admitted in 1 year (2014)

Emergency Admissions Cost Data

Emergency Admissions Standardised Rate Cost for National	£166,171
Emergency Admissions Standardised Rate Cost for Non-Eclipse Users	£168,228 (+1.2%)
Emergency Admissions Standardised Rate Cost for All Eclipse Users	£153,559 (-7.6%)
Emergency Admissions Standardised Rate Cost for Top Users	£145,084 (-14.5%)

Figures are based on cost per 1000 patients per year (2014)

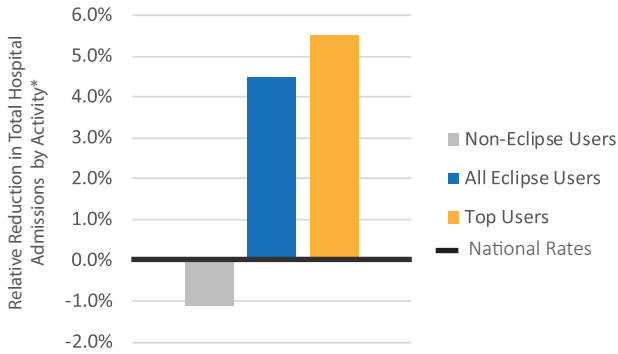
Total Reduced Emergency Admissions - 42,028

Total Cost Saving - £114,000,000

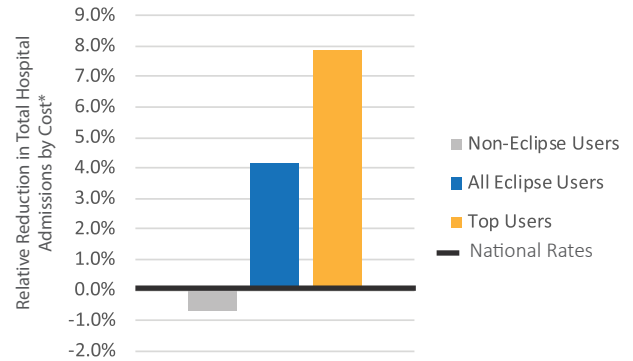
*where 0% represents the background national standardised rates as defined by the HSCIC

Total Hospital Admissions

Relative Reduction in Total Hospital Admissions

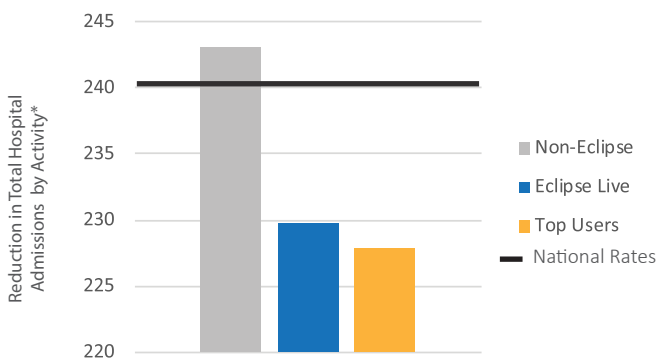


Figures are based on the number of patients / 1000 admitted in 1 year (2014)

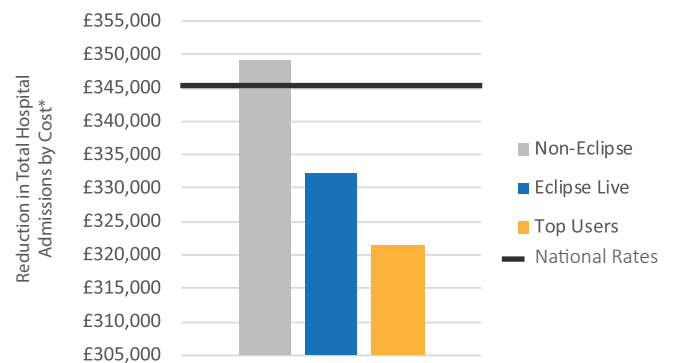


Figures are based on cost per 1000 patients per year (2014)

Standardised Rates of Total Hospital Admissions



Figures are based on the number of patients / 1000 admitted in 1 year (2014)



Figures are based on cost per 1000 patients per year (2014)

Total Hospital Admissions Data

Total Admissions Activity Data

Total Admissions Standardised Rate Activity for National	240.6
Total Admissions Standardised Rate Activity for Non-Eclipse Users	243.2 (+1.1%)
Total Admissions Standardised Rate Activity for All Eclipse Users	229.7 (-4.5%)
Total Admissions Standardised Rate Activity for Top Users	227.9 (-5.5%)

Figures are based on the number of patients / 1000 admitted in 1 year (2014)

Total Admissions Cost Data

Total Admissions Standardised Rate Cost for National	£346,785
Total Admissions Standardised Rate Cost for Non-Eclipse Users	£349,136 (+0.7%)
Total Admissions Standardised Rate Cost for All Eclipse Users	£332,368 (-4.2%)
Total Admissions Standardised Rate Cost for Top Users	£321,511 (-7.9%)

Figures are based on cost per 1000 patients per year (2014)

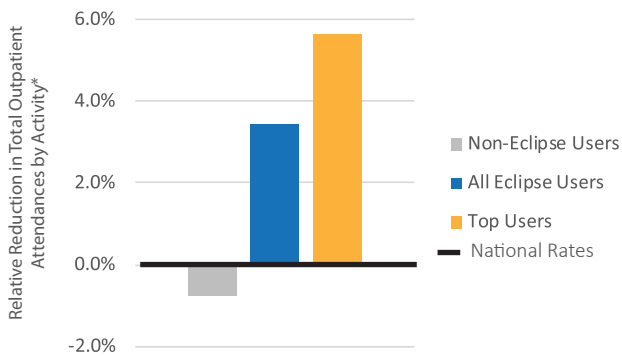
Total Hospital Admissions - 98,269

Total Cost Saving - £130,307,240

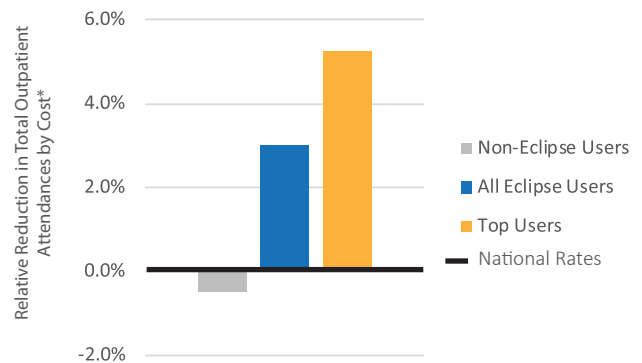
*where 0% represents the background national standardised rates as defined by the HSCIC

Total Outpatient Attendances Analysis

Relative Reduction in Total Outpatient Attendances

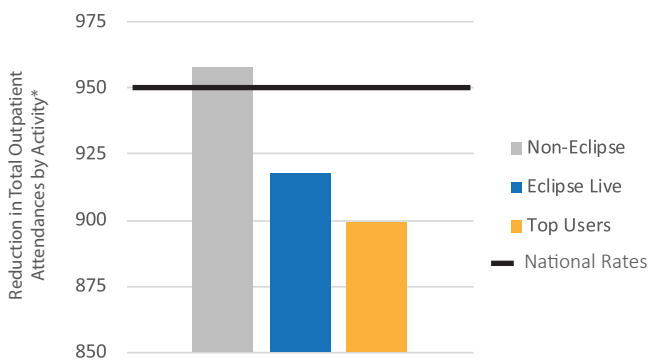


Figures are based on the number of patients / 1000 admitted in 1 year (2014)

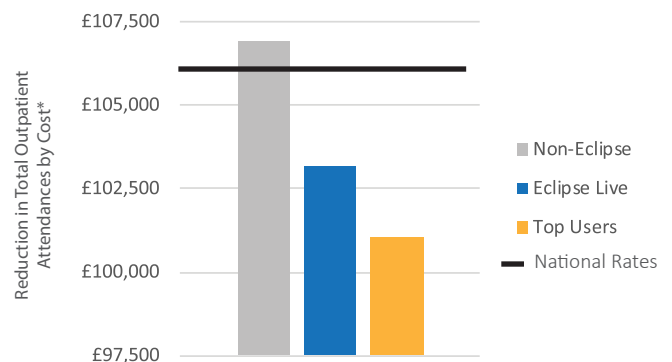


Figures are based on cost per 1000 patients per year (2014)

Standardised Rates of Total Outpatient Attendances



Figures are based on the number of patients / 1000 admitted in 1 year (2014)



Figures are based on cost per 1000 patients per year (2014)

Total Outpatient Attendances Data

Total Outpatient Attendances Activity Data

Total Outpatient Attendances Standardised Rate Activity for National	950.4
Total Outpatient Attendances Standardised Rate Activity for Non-Eclipse Users	957.5 (+0.8%)
Total Outpatient Attendances Standardised Rate Activity for All Eclipse Users	917.6 (-3.4%)
Total Outpatient Attendances Standardised Rate Activity for Top Users	899.6 (-5.6%)

Figures are based on the number of patients / 1000 admitted in 1 year (2014)

Total Outpatient Attendances Cost Data

Total Outpatient Attendances Standardised Rate Cost for National	£106,379
Total Outpatient Attendances Standardised Rate Cost for Non-Eclipse Users	£106,903 (+0.5%)
Total Outpatient Attendances Standardised Rate Cost for All Eclipse Users	£103,167 (-3.0%)
Total Outpatient Attendances Standardised Rate Cost for Top Users	£101,064 (-5.3%)

Figures are based on cost per 1000 patients per year (2014)

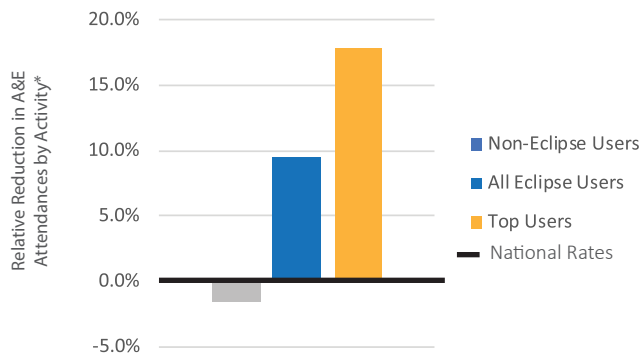
Total Reduced Outpatient Attendances - 296,266

Total Cost Saving - £29,031,856

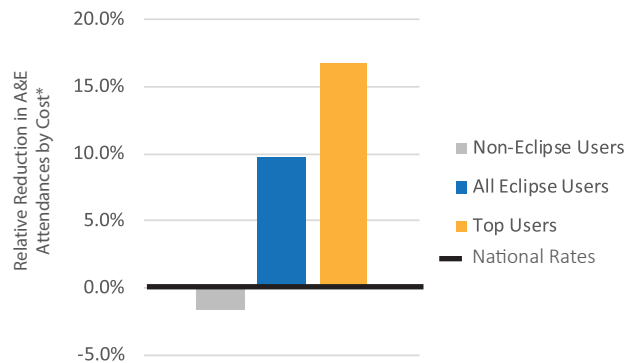
*where 0% represents the background national standardised rates as defined by the HSCIC

Accident & Emergency Attendances Analysis

Relative Reduction in Accident & Emergency Attendances

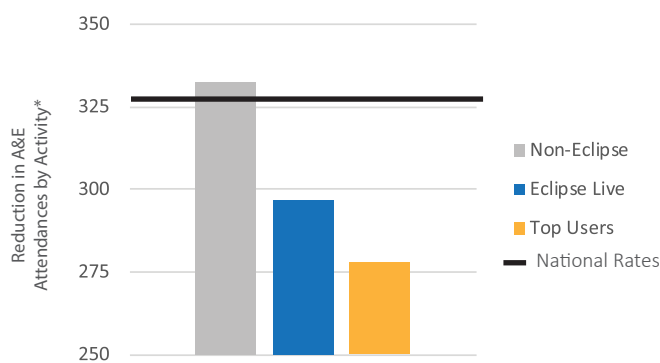


Figures are based on the number of patients / 1000 admitted in 1 year (2014)

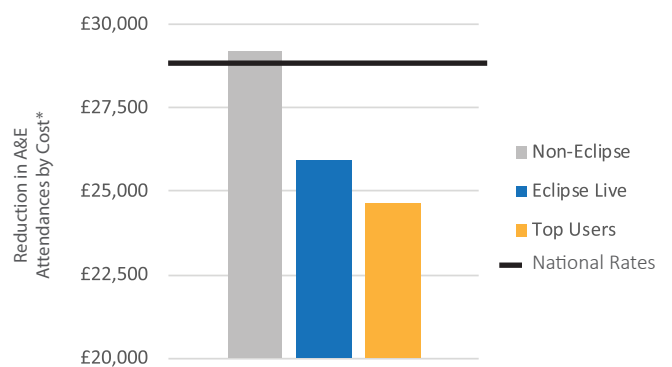


Figures are based on cost per 1000 patients per year (2014)

Standardised Rates of Accident & Emergency Attendances



Figures are based on the number of patients / 1000 admitted in 1 year (2014)



Figures are based on cost per 1000 patients per year (2014)

Accident & Emergency Attendances Data

A&E Attendances Activity Data

A&E Attendances Standardised Rate Activity for National	327.7
A&E Attendances Standardised Rate Activity for Non-Eclipse Users	332.8 (+1.5%)
A&E Attendances Standardised Rate Activity for All Eclipse Users	296.6 (-9.5%)
A&E Attendances Standardised Rate Activity for Top Users	278.1 (-17.8%)

Figures are based on the number of patients / 1000 admitted in 1 year (2014)

A&E Attendances Cost Data

A&E Attendances Standardised Rate Cost for National	£28,764
A&E Attendances Standardised Rate Cost for Non-Eclipse Users	£29,220 (+1.6%)
A&E Attendances Standardised Rate Cost for All Eclipse Users	£25,959 (-9.8%)
A&E Attendances Standardised Rate Cost for Top Users	£24,634 (-16.8%)

Figures are based on cost per 1000 patients per year (2014)

Total Reduced A&E Attendances - 281,184

Total Cost Saving - £25,355,422.64

*where 0% represents the background national standardised rates as defined by the HSCIC

Eclipse Radar Impact Dashboard - Activity

Eclipse Radar usage is associated with a reduction in activity of:

42,028	281,184	98,269	296,266
Emergency Admissions into Hospital	Attendances into A & E	Total Hospital Admissions	Total Outpatient Attendances

All Practices with Eclipse Radar activated achieved reductions compared to the standardised national rates of:

-6.4%	-9.5%	-4.5%	-3.4%
Emergency Admissions into Hospital	Attendances into A & E	Total Hospital Admissions	Total Outpatient Attendances

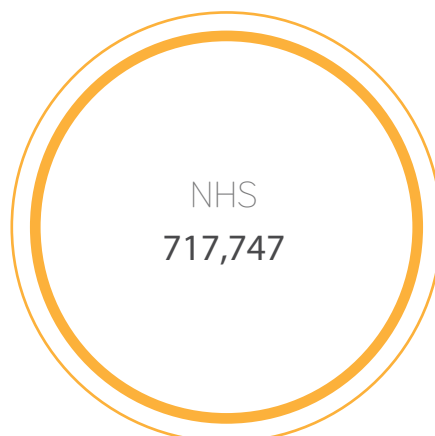
Top Practices with Eclipse Radar activated achieved reductions compared to the standardised national rates of:

-7.8%	-17.8%	-5.5%	-5.6%
Emergency Admissions into Hospital	Attendances into A & E	Total Hospital Admissions	Total Outpatient Attendances

Non-Eclipse users had increases compared to standardised national rates of:

+1.1%	+1.5%	+1.1%	+0.8%
Emergency Admissions into Hospital	Attendances into A & E	Total Hospital Admissions	Total Outpatient Attendances

ALL ECLIPSE USERS TOTAL ACTIVITY REDCUTION



Eclipse Radar Impact Dashboard - Cost

Eclipse Radar usage is associated with a saving of:

£114million

Emergency Admissions
into Hospital

£25million

Attendances into
A & E

£130million

Total Hospital
Admissions

£29million

Total Outpatient
Attendances

All Practices with Eclipse Radar activated achieved savings compared to the standardised national rates of:

-7.6%

Emergency Admissions
into Hospital

-9.8%

Attendances into
A & E

-4.2%

Total Hospital
Admissions

-3.0%

Total Outpatient
Attendances

Top Practices with Eclipse Radar activated achieved savings compared to the standardised national rates of:

-14.5%

Emergency Admissions
into Hospital

-16.8%

Attendances into
A & E

-7.9%

Total Hospital
Admissions

-5.3%

Total Outpatient
Attendances

Non-Eclipse users had increases in spend compared to standardised national rates of:

+1.2%

Emergency Admissions
into Hospital

+1.6%

Attendances into
A & E

+0.7%

Total Hospital
Admissions

+0.5%

Total Outpatient
Attendances

ALL ECLIPSE USERS TOTAL SAVING



In Summary

Thanks to this project, countless lives are being saved with more than 9million patients already protected by Eclipse Radar.

Eclipse Radar gives patients maximal protection while maintaining their confidentiality. It allows complete and effortless medicines optimisation and enables forward-thinking prescribing teams to achieve an unparalleled level of prescribing safety.

What is even more exciting is that the Radar review rates could be significantly better with the potential to achieve dramatic improvement in patient safety and the ability to free up much needed resources in both accident & emergency and acute hospital trusts.

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2015

