Prescribing naloxone for lay distribution has been promoted to reduce morbidity and mortality of heroin overdose and deaths in the United States. Lay overdose reversal programs can cost-effectively prevent 6.5% of all heroin overdose deaths in the US.

EVZIO is a naloxone autoinjector indicated for lay overdose reversal in emergency treatment of known or suspected opioid overdose.

Autoinjection of naloxone, an opioid antagonist, can immediately counteract respiratory and central nervous system depression caused by opioid overdoses. When administered by witnesses of an opioid overdose, EVZIO can temporarily reverse the effects of the opioid and help keep the patient breathing until emergency medical assistance is available.

Economic benefits to health systems of prescribing EVZIO are not clear.

### Objectives

Model the cost effectiveness of making EVZIO available for patients, family members, and other potential witnesses of opioid overdose.

### Methods

**Model**

- Decision analysis from perspective of provider/payer over one year period for individuals at risk of opioid overdose
- Overdoses could be treated with Evzio that is available for lay administration by individuals who might witness overdose events or they could be treated using usual care
- Model variables came from published literature and public data
- Cost effectiveness was measured in Cost per QALY saved

### Results and Conclusions

The base case analysis found that it cost $24,126 per QALY saved when EVZIO was prescribed. This was significantly more costly than Coffin & Sullivan’s model measured over a patient’s lifetime. The most important variables in the model were probabilities of an OD being witnessed and EMS being called. Varying the cost of EVZIO resulting in a cost per QALY saved ranging from $17,233 at $300 to $28,722 at $500.

### Limitations

1. Probabilities of EVZIO being prescribed, an overdose being witnessed, EVZIO being used when present, and death were the same as Coffin and Sullivan’s model.
2. The chances of EMS being called and ED treat-and-release visits occurring was no different with EVZIO than without EVZIO.
3. The probability of hospitalizations prevented was no different with EVZIO than without EVZIO.

### Conclusions

The cost per QALY saved in prescribing the naloxone autoinjector, Evzio, for patients at risk of opiate overdose is within acceptable cost effectiveness values for new therapies.

When administered by friends, family members, and other witnesses of an opioid overdose, Evzio can be cost effective.

### References
