```
from gpiozero import DigitalInputDevice
import time

# --- configuration ---
IR_PIN = 17          # GPIO pin for IR receiver (BCM numbering)
INITIAL_PILLS = 30   # starting number of pills loaded
DEBOUNCE_TIME = 0.10 # seconds between valid detections (s)

# --- state variables ---
pills_dispensed = 0
pills_inside = INITIAL_PILLS

previous_beam_broken = False
last_trigger_time = 0.0

# Digital input with internal pull-up resistor
# Assumes sensor pulls LOW when beam is blocked by a pill
ir_sensor = DigitalInputDevice(IR_PIN, pull_up=True)

print("Pill dispenser IR counter started")
print(f"Initial pills: {pills_inside}")
print("----------------------------")

try:
    while True:
        # ir_sensor.value: 1 = beam clear, 0 = beam blocked
        beam_broken = (ir_sensor.value == 0)
        now = time.time()

        # detect transition from clear -> broken
        if beam_broken and not previous_beam_broken:
            # debounce to ignore noise / multiple triggers
            if now - last_trigger_time > DEBOUNCE_TIME:
                pills_dispensed += 1
                if pills_dispensed > INITIAL_PILLS:
                    pills_dispensed = INITIAL_PILLS  # clamp max

                pills_inside = INITIAL_PILLS - pills_dispensed
                last_trigger_time = now

                print("Pill detected")
                print(f"Pills dispensed: {pills_dispensed}")
                print(f"Pills remaining: {pills_inside}")
                print("----------------------------")
```

```
        previous_beam_broken = beam_broken

        # small delay to reduce CPU usage
        time.sleep(0.005)

except KeyboardInterrupt:
    print("\nStopped pill counter.")
```

Code for lights, start blinking when pills are empty in the dispenser.