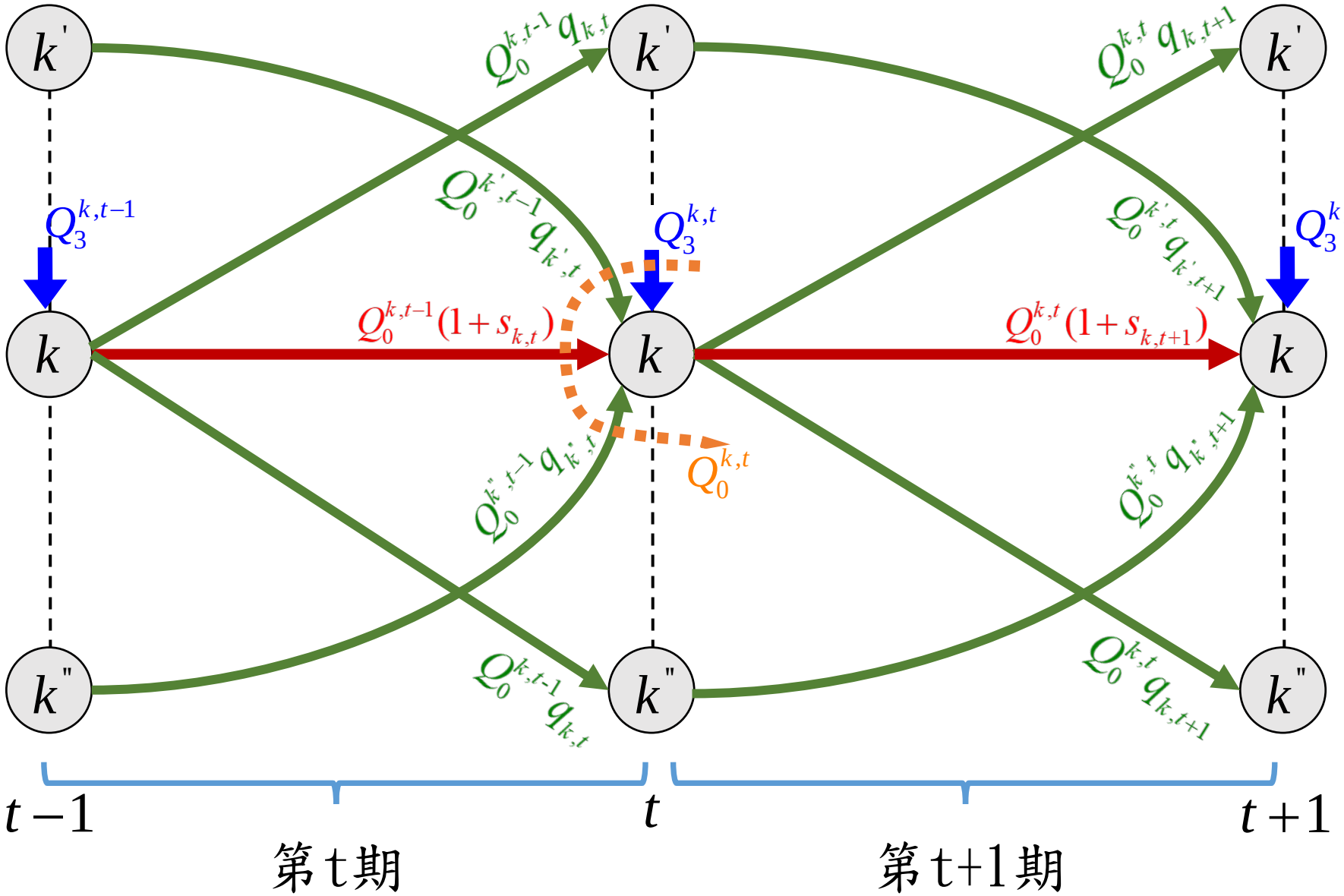
未投藥

網格k第t期期末總病毒量

$$Q_0^{k,t} = Q_1^{k,t} + Q_2^{k,t} + Q_3^{k,t}$$



→	自格成長
→	它格擴散
→	自格原生

$Q_1^{k,t}$

$Q_2^{k,t}$

$Q_3^{k,t}$

$$Q_1^{k,t} := Q_0^{k,t-1}(1+s_{k,t})$$

$$Q_2^{k,t} := \sum_{k' \in \{k':d_{kk'}=1\}} Q_0^{k',t-1} q_{k',t}$$

$Q_3^{k,t} = F_i$ with probability p_i

e.g. $F_0 = 60,\ p_0 = 10\%$

$F_1 = 40,\ p_1 = 20\%$

$F_2 = 0,\ p_2 = 70\%$

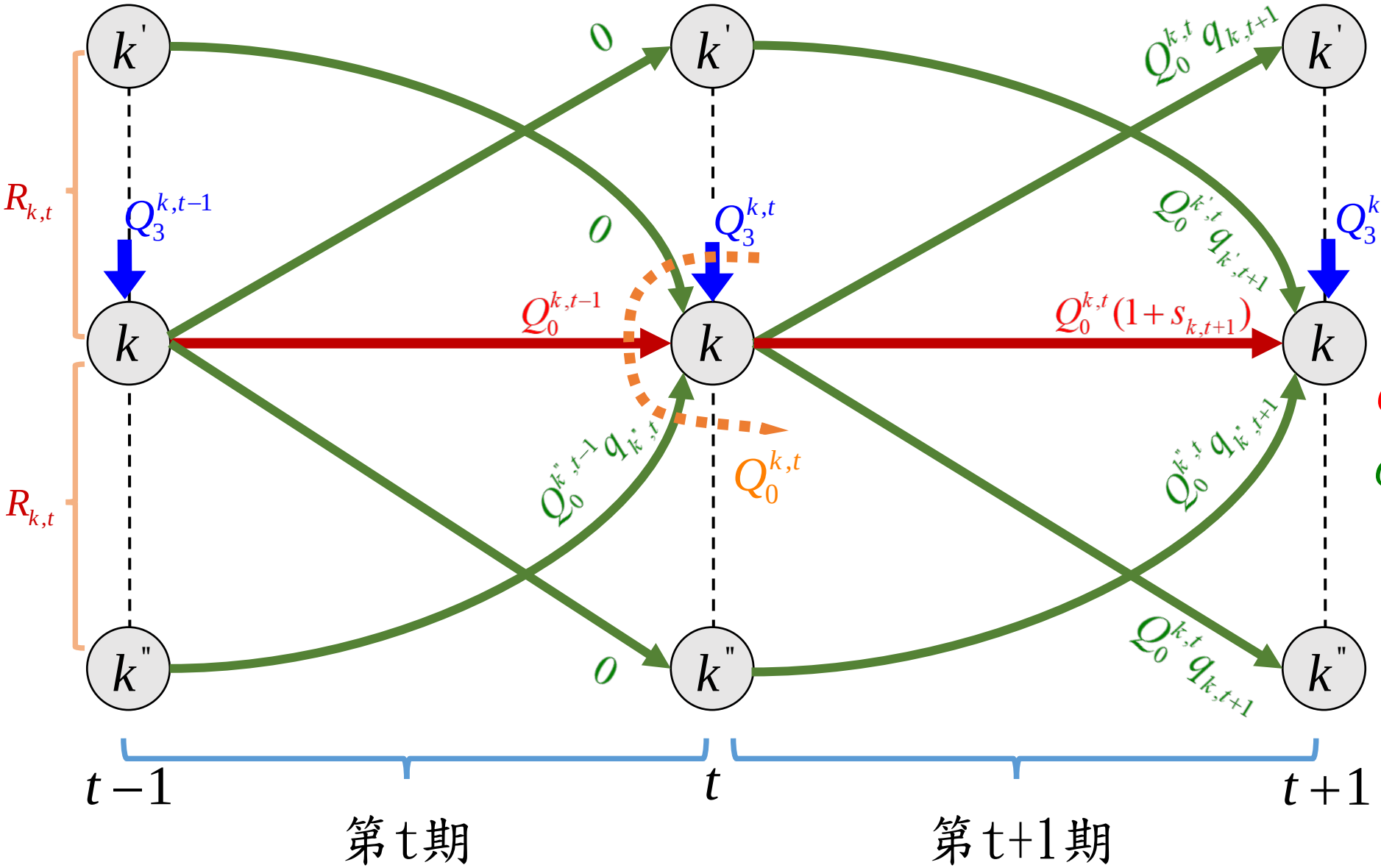
若第t期於網格k投入強度 $X_{k,t}$ 範圍 $R_{k,t}$ 的藥劑

假設第t期時網格k′有投藥，但網格k″沒有投藥

第t+1期時網格k′,k″皆無投藥

網格k第t期期末總病毒量

$$Q_0^{k,t} = (Q_1^{k,t} + Q_2^{k,t} + Q_3^{k,t}) \prod_{k' \in \{k' : d_{kk'} \le R_{k',t}\}} (1 - X_{k',t} / 2^{d_{kk'}})$$



→	自格成長 $Q_1^{k,t}$
→	它格擴散 $Q_2^{k,t}$
→	自格原生 $Q_3^{k,t}$

$$Q_1^{k,t} := Q_0^{k,t-1}$$

$$Q_2^{k,t} := \sum_{k' \in \{k' : d_{kk'} = 1\}} Q_0^{k',t-1} q_{k',t}$$

$Q_3^{k,t} = F_i$ with probability p_i

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